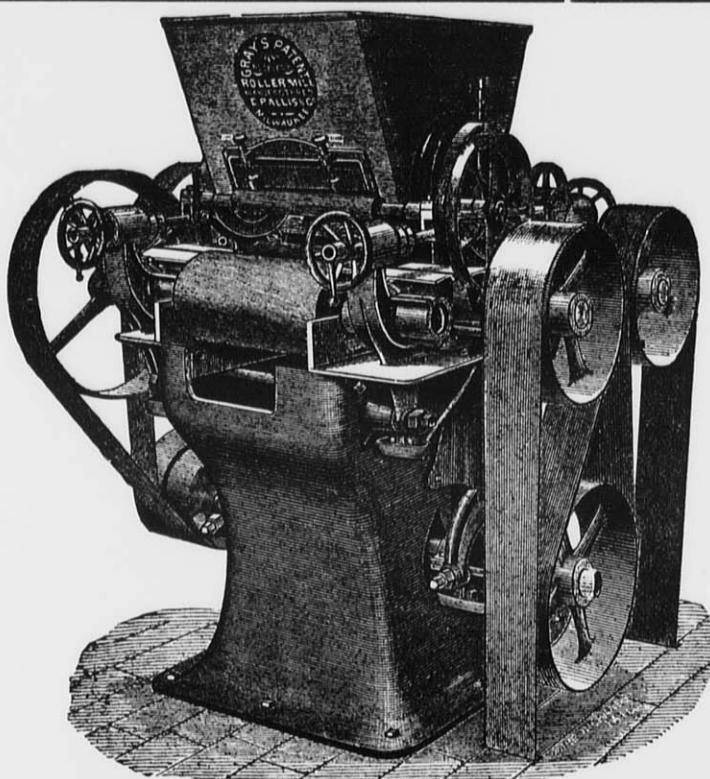
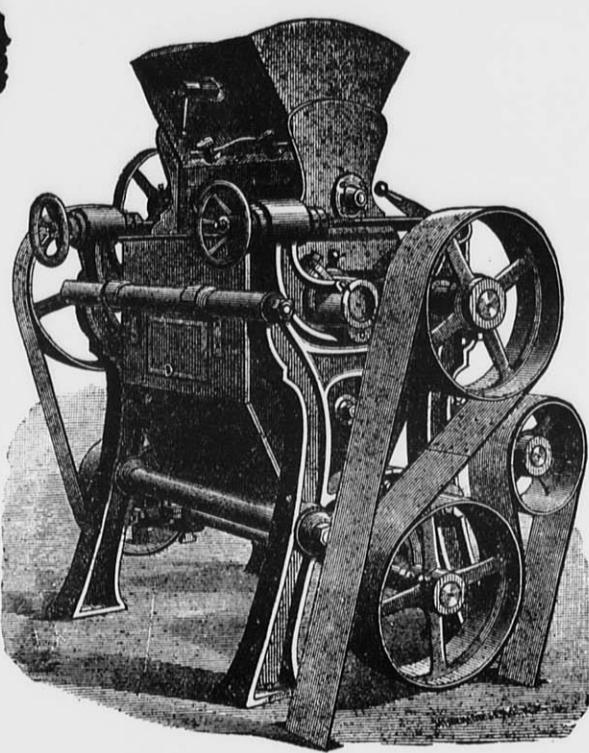


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[Written for the UNITED STATES MILLER.]
Plain Talks About Milling.

BY R. BIRKHOLZ, M. E.

"Percentage" is the hobby of the manufacturers of milling machinery and the mill builders of our times. A nervous pursuit of methods economizing the use of raw material, and simplifying the process of manufacture is eagerly sustained by managers of our different manufacturing business branches. The ambition to anticipate others in the use of a new economical process, thereby augmenting the profits, before imitations of such improved process cuts into the profits by competition—also the search after still better methods, cause energetic business managers and owners many sleepless nights. Besides this, the mechanical experts as well as the practical workmen pencil or chalk out thousands of sketches, in feverish haste, to secure new and patentable devices having a saving tendency which they can bless (?) the manufacturers with. Having, (in their mind) struck something, they manage to find some manufacturer whom they are able to cause to think there is something in it and then trials are made—generally at the expense of the manufacturer. Should the results prove good, then the patentee holds up his hat for a large share of the profits—if bad—why then the patentee *regrets*, and expresses himself extremely sorry that the clever manufacturer had spent so much money.

As far as flour-milling is concerned—it appears that every miller and milling expert has roller-milling on the brain. They do say that the United States Patent Office will have to be closed for the next six months and the entire force of all the departments will in the meantime be put to work investigating the applications for patents for roller-mills and dust catchers, which have already been placed on file. Shocking!

Mill-men everywhere are going around "half-cocked" full of grand ideas and all that bothers them is to pick out the best ones for the market. The quality, not the quantity of ideas insure the most profits, the trade demanding a different rule from that of the Hebrew dealer in clothing who stoutly claimed "It is the quantity that fetches the trade."

A droll story is told here, about a mill-man that was "full of ideas"—a man with a decidedly inventive turn of mind. He was visiting a friend and made himself noticeable during the whole afternoon by his extreme taciturnity. Everybody could readily see by his abstracted appearance that he was brooding over some new machinery. While seated at the supper table he suddenly laid down his knife and fork, placed his napkin by the side of his plate—glanced at the ceiling with a painful expression upon his face and said in a grave tone of voice "A piece of paper, please," He shoved back his chair, shut himself up like a jackknife and again said "a piece of paper." He jumped up from the table, drew his pencil from his pocket hastily and started through the kitchen door, and meeting the "hired girl," asked hurriedly for a piece of paper. Bridget blushed and uttered an exclamation of surprise, but she was equal to the occasion, and quickly placing a piece of old newspaper in his hand, opened the back door and pointed to that little house, the like of which may generally be found in our back yards, pushed him gently out, and shut the door. He did not come back, but bolted directly for down town. Doubtless another great invention has been lost to the world.

Many millers go wandering about with eyes and ears wide open, taking in stories unscrupulously told by interested or disinterested, informed or uninformed parties. They hear frequently here and there about "96 per cent. Patent—no low grade"—"bars so large and light that it will float in the air and must be gath-

ered with butterfly nets—barrel of flour from 4 bushels of wheat, and sharp corrugations," etc., etc. Their imaginations are excited, their heads used and their heads feel as if they contain a thousand double back geared roller mills. Those millers may believe that there is but one good system to be followed, and every miller having recently changed his mill to "new process" have got it. Amongst the multitude of points of information, many in direct conflict with each other, many millers are liable to become thoroughly confounded and it is only by throwing off all trust from their crowds of advisers and using their own good judgment alone in selecting the system which they will adopt that they can save themselves from drifting on to the ragged edge of ruin.

The miller must *examine* carefully the merits of the different processes submitted to him and *understand* them thoroughly, and then be guided by his *own judgment* and not by assertions in advertisements, or arguments from the mouths of agents. The cheapest work is seldom the best, and "guarantees" to fit up mills at a slight expense that will turn out flour in quantity and quality better than the largest and most costly mills in the world, are little to be relied upon. The "forfeiture contracts" are often drawn, (like some insurance policies,) with so many "ifs," "ands" and "buts" that they do not eventually amount to anything and can never be collected. They are good baits, however, and should the dissatisfied miller who has entered into one of these contracts begin suit against the wealthy manufacturer, the chances are against him. The largest mill builders in this country build mills without giving guarantees of results. They believe in a common sense acknowledgement of their efforts to build substantially and economically and their reputation as mill builders is in itself a guarantee of the best kind.

The most reliable aid for manufacturers intending to make a change of their machinery, or the adaptation of a new process, is the study of a book which is known to be written by an uninfluenced and disinterested critic; one who honorably puts on paper the truth only, according to his best knowledge; one who records the tests and trials without modification in favor of any body; one who relates *practical results* of the different methods in use for a series of years, with pedantic integrity.

Each branch of manufacturing has its universally acknowledged authorities, their critical authors having become thoroughly informed by careful and persevering devotion to their profession for a score or more of years. The Germans are indisputably great *Literati*, and as soon as a new device is invented, its merits or demerits are carefully considered, logically described and then praised or condemned, according to their value to the trade at large. The records of these investigations soon appear in print ready for the inspection of the discriminating public, who will place greater or lesser reliance thereon according to the reputation of the critic.

When I was employed as civil engineer for a certain iron rolling-mill, several years ago, I wondered why the roll-turners drew such fine salaries in comparison with the machinists working with them. I learned that they kept their *modus operandi* very secret. I learned time enough, that it is a trade requiring great skill, accuracy and deliberation. I wrote to our leading book dealers, East, about printed information in regard to roll-turning, but could obtain nothing. I then wrote to Germany and procured a book just published at the time, entitled "The Science of Turning Rolls and for rolling all shapes of bar iron."

On showing it to some of my Welsh friends (ironworkers) they asserted that they did not believe it amounted to anything, but when I translated some paragraphs apparently sought for by even those practical workers, they asked with great interest if the work was to

be obtained in the English language. A year later the work was translated and published in the English language and purchased eagerly by the roll turners mentioned, who unhesitatingly admitted that they had learned many things from it of real value to them.

Now the books that I wanted to mention as being indispensable to millers who desire to amplify their mental and mechanical horizon without calling for the assistance of the Coryphees of Modern Milling, or of the mill building establishments of Allis, Noye, Stillwell & Bierce, Downton, Chisholm, etc., etc., are "Pappenheim's Modern Milling" and "Prof. Kick's Flour Manufacture," both of which are published in Germany, and are at present, unfortunately, only published in the German language, but I am creditably informed that the work of translation of both these books is now being accomplished. I know of many German American, and American millers who now have these books in their libraries,* and occasionally read chapters therein, or get them read and translated to them by some German friend.

Both these authors speak highly of, and recommend the "Ganz sharp, saw-tooth corrugations" for the reduction of wheat, asserting that they produce the maximum quantity of coarse middlings even from the softest wheat, and the minimum quantity of break flour. They both advocate the re-sharpening of the corrugations when they begin to be *too dull* and *make too much flour*, which disadvantage must be looked for in from 3 to 10 years after they have been put to work, according to the severity of the labor with which they have been taxed. I will not dwell any longer upon this subject of dispute at present, excepting merely to state to the millers of the United States, that here only is a discussion now kept up on the merits of sharp and dull corrugations. The millers on the continent of Europe discussed this question, tried and discarded the dull corrugations long ago, and the matter is now well-nigh forgotten there.

My aim in this article is to entertain millers with a description of the many ways of making percentage of saving.

I have often found millers who seemed to regard their prime movers with almost absolute disregard. They were content to bother along with a waterwheel, drawing an enormous quantity of water or with an engine that required an immense quantity of fuel to keep it in motion. Millers often spend thousands of dollars in improving their mills with a view of saving fuel and raw material, or, when buying a new machine, they make careful inquiries as to the amount of power required to drive it and give preference to the easiest running machine, but upon what amount of power their prime movers (waterwheels, or engines) waste, they do not stop to estimate.

There are water-wheels employed in some mills which yield only 60 per cent. of the full power of the head, and a good wheel ought to yield 80, giving thus one-third more power. Boilers are sometimes used, of such construction, that the fuel consumed beneath them does not develop anywhere near the power that it should. They are often allowed by careless-boiler tenders to amass so much scale as to greatly hinder the penetration of the heat to the water. A thickness of a sixteenth of an inch of scale necessitates 15 per cent. more fuel and the heating of the iron 15 per cent. hotter, and when the scale is from $\frac{1}{2}$ to $\frac{1}{4}$ inch thick, the shell iron exposed to the flame is endangered by getting red hot and the boilers will bulge in lucky, or will explode in unlucky cases.

And the engines! How many of them drag along a miserable existence, running like fury to give the power, overworked by steam pressure, rattling and jiggling in every joint, threatening to run away whenever a run of stone, a roll or a smutter is stopped. These

engines are generally of the old slide-valve type, working non-expansively but expensively indeed. The coal pile is the tell-tale. But the miller will improve his mill, he will employ light-running machinery and his steam engine may still rattle on. He wants

percentage in his mill but does not care about bothering with saving "percentage" in his engine-room, and yet any Corliss engine will save at least $\frac{1}{2}$ of the fuel and run as steady as a clock whether all the machinery in the mill is being driven or none at all with the throttle-valve wide open. The Reynolds-Corliss engine (built by Edw. P. Allis & Co., Milwaukee, Wis.) will save up to 50 per cent. of fuel over a slide valve engine. Mr. John Schuette of Manitowoc, Wis., a well-known miller told me at the time, that he made a contract with E. P. Allis & Co. to the effect that he was to only stop his mill ten days during which time they were to take out his old engine and replace it with a Reynolds-Corliss engine and start it up and for the new engine they were to have the old one and the value of the fuel saved in one year by the change.

After the new engine had been run for two months he came to Milwaukee and squared up for the new engine paying a handsome bonus not desiring any longer time. He had a good slide-valve engine equipped with a patent "cut-off governor." The steam was indeed cut off but not at the right place—in the steampipe and not just before entering the cylinder. It is said that Schuette saved about 45 per cent. of fuel which in his case was equivalent to \$3000 per year. A common slide-valve engine is cheaper in the first cost than a Corliss, but cheap machinery of any kind, is generally dear in the long run. Americans are skeptical and cannot be easily cheated. Dealers in machinery have to gain and maintain a reputation; they have to work themselves into confidence with buyers and as Americans publish, print and read more than any other nation, the mistakes of manufacturers must be expected to be related and criticised publicly in some of the many technical papers circulated so extensively through the country.

Dealers will sell cheaply such machinery as they can produce at slight expense of time, material and labor, but that which requires a large outlay of skill, labor and material must always be in the first instance, clear. I earnestly advise buyers to purchase the best that can be obtained or not to buy at all. The half-way method of doing things has ruined more men than is generally acknowledged.

The percentage of saving under the boiler as well as of the boiler itself is directly proportionate to the regularity of firing and the cleanliness of the inside. Boilers must be cleaned frequently and the scale picked and scraped off. No oil should be allowed to accumulate within the boiler. More or less of the cylinder unguent is evaporated and carried along with the exhaust steam into the condenser or into such feed-water heaters in which the exhaust steam is brought into direct contact with sprayed feed-water. The oil vapors liquefied by condensation will float on the overflow water in case of using a direct-contact heater. Both of the appurtenances are generally so constructed that fatty particles pass off without getting to the suction of the boiler feed-pump but owing to the turbulence of the overflow and the rapid use of the feed-water from a contact heater of too small a size, some oil bubbles will not have a chance to rise to the top of the water and they will get within reach of the boiler feed-pump and thus into the boiler.

Experiments have shown conclusively that organic, i. e. animal or vegetable oils will easily form a film of fat-acids in the boiler, having a tendency to destroy or corrode the iron. Mineral oils will not get rancid and acrid so easily and as they are specifically lighter and more limpid than organic oils they

*These books can be furnished, if desired, by the editor of the UNITED STATES MILLER

THE UNITED STATES MILLER.

will be more readily carried off on the surface of the overflow etc.

The percentage in saving of steam itself depends upon the perfection of the jacketing of the boiler, steampipes and cylinder. These parts ought to be well surrounded by non-heat-conducting substances. The Corliss cylinder is furnished by manufacturers with jacketing consisting of felt, dead-air, and a wooden encasement.

The percentage of saving in engine is proportionate to the care spent in keeping it in complete order. No thumping or "pounding" must be allowed and mineral oils must be used to preserve the inside of the cylinder. I suppose the secret of saving with the Corliss engine is too well known to need extended comment, but I will barely mention the three cardinal reasons; *First*, the cutting off of the steam in the early part of the stroke and letting the balance of the work be done by expansion of the steam on the piston, the results of valve gear. *Second*, the full initial boiler pressure on the piston on and after its beginning a stroke, imparting a great amount of power on the crank-pin immediately after having passed one of the dead-centres, also result of valve gear. *Third*, the possible minimum of waste room in steam-ways, the valve ports and cylinder ports coincident results of construction. The Corliss type of engine will give a greater regularity of speed in a mill than any other. They have been extensively introduced in sawmills which are the most difficult of any in which to preserve regularity of motion for, for a few seconds they demand perhaps the entire power of the engine and then none at all. They can readily dispose of their spare fuel, sawdust, slabs, etc. to other manufacturing concerns.

Slag coal, or small bituminous coal is used in some localities for firing. It is cheap fuel but the observer has noticed that its price has advanced. The proper difference between the price of lump and slag coal has not yet reached its level but it will sooner or later. Even slag coal saved, means money earned, therefore it is advisable even where fuel is cheap to use the Corliss type of engine.

Put in a feed-water heater to save fuel and choose such a heater for this purpose that will heat the feed water most and one by which the boiler can be kept free from greasy substances. Where the water is available put in a condenser; it will save at least one-fifth of the fuel or about 7200 pounds of coal per horsepower per year at a running time of 24 hours per day. It will pay for itself in ten months if you use an engine having 75 horsepower capacity. The Reynold condenser is the only one manufactured in Milwaukee. You can drive them by belt from engine or any other shaft. These condensers are rigged with a feed pump which throws a portion of the condensed steam and injection water back into the boiler. Three of the largest flouring mills in Milwaukee are driven by Reynolds-Corliss compound condensing engines with feed-water heaters connected. These mills use less than one ton of coal per 110 barrels of flour produced and the engineers are constantly on the watch to make a saving in fuel.

Steam engines will give the most economical results when running at high steampressure and with from 500 to 600 feet piston-speed per minute. It is safest not to run with more than 100 ft pressure and when engines are of shortstroke the piston-speed must not be so great for the re-iterated jerking on crank-pin and other parts becomes very destructive at the necessary high number of revolution required. Corliss engines are built with long stroke and therefore better adapted for great piston-speed.

I desire to mention here, that many object to the taking off the power from the engine by a belt over the fly-wheel. They think that the working of the wheel as an equalizer is thereby impaired. They prefer to either put on an extra pulley on the engine shaft from which the power is transmitted by a belt, or to take the power by the shaft direct and by gearing. If the fly-wheel is of the proper weight it will do its work whether the power is taken from the rim or from engine shaft as its accumulated inertia accelerates or retards the motion of the engine caused by the favorable or unfavorable positions of the crank by the keys holding it fast to the shaft. If the power is taken off this shaft it is held back by the belt and pulley or the gear on it and the flywheel has to accelerate or retard directly the shaft, and indirectly the machinery attached to it, by its keys. It will accelerate or retard the machinery directly when the power is taken off by a belt over its rim. A belt is preferable to gear for transmitting the power of the engine. The belt serves to a certain extent, as an equalizer, having a similar effect

to the well-known "Hafner spring," which, in case of transmitting the power by gears, is driven by the engine shaft, itself driving the gear.

The percentage of saving in machinery depends much upon the skill and care of the millwright when putting up the shafting and gearing. If the shafts are not laid straight and in line, much power is wasted in the bending of the same. If gear-posts and bridge-trees are badly secured, of too light construction, the gears not set in mesh on pitch-line, power is lost in unnecessary friction in the cogs. The constant bending of the shafts thereby straining all its fibres with every revolution, soon crystallizes the iron and then breakage must be expected. The constant jarring in the teeth of wheels held in mesh by weak bridge tree-work will soon wear away the strongest teeth.

A new mill should be watched with great care during the first year, for the settling of the building will misplace the bearings of shafts, etc. Good millwrights will save the millowners much expense in first cost and in fuel subsequently, by planning the mill with a few short shafts as possible.

Another saving enjoyed by thoughtful mechanics is caused by the use of good lubricants for their machinery. Good lubricants should possess lasting qualities, reduce the friction and guard the bearings from heat and wear. For slow-running and heavy shafts, or for shafts running under heavy pressure, use animal oils—good winter-strained unadulterated lard oil or tallow.

A very nice, economical and reliable oiler has been patented lately by W. J. Faul, of New York City. It consists of a tin cup with a nipple which fits, and is entered into a hole drilled through the box cap. Within this cup, which is 1½ inches in diameter, is placed a tallow candle, which penetrates through the nipple and touches the shaft. It is pressed against the shaft by a small cast-iron "acorn" fitting over the upper end of the candle. A cap slipped over the cup closes up the lubricator. These tallow candles are specially prepared of different degrees of hardness, and selected for use according to the necessities of the case. They are about ¼ of an inch thick and 3 to four inches long. I have known some of them to last 3 weeks on a 2½ inch shaft running 80 revolutions per minute. This is, undoubtedly, a good invention.

Light fast running shafts need lighter oils, such as cotton-seed oil, or lard oil mixed with, or made limpid by mineral oil. There are some mineral oils prepared from crude petroleum oils which are well adapted for oiling fast running shafts. In case oil cups are used provided with feeders, the cap ought to be placed so that the nipple ends are visible, they ought to be supported by small tripods or perforated tubes, so that the feeding can be inspected drop by drop. The common oil-cup with a small outlet is not economical, as the oil escapes too rapidly, and is therefore wasted. Common boxes with oil reservoirs on caps can be most economically oiled if cotton waste is put into reservoir, part of which must be pushed through the oil-holes until it touches the shaft. The best oiling is effected, however, when the oil reservoir is placed below the bearing and round wicks stand in the oil and pass up through the babbitt on to the shaft. Thus the most economical and coolest boxes are obtained, for nothing but pure oil reaches the shaft from the cup by capillary attraction. The oil mixed with the worn babbitt metal gradually works to the bearing ends, where, on account of the construction of the box, it works back into the reservoir, thickening the oil, but the dust cannot get up to the bearing again. These boxes must be occasionally cleaned out and a screw plug is provided for that purpose at one end of the reservoir which being removed, leaves an opening for emptying and cleaning.

(To be continued.)

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During the past month the UNITED STATES MILLER has been favored with calls from the following gentlemen connected with the trade.

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William Cordes, St. Louis, Mo.

J. E. Lcomis, St. Louis, Mo.

W. C. Edgar, business manager of *The Northwestern Miller*, Minneapolis, Minn.

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MILWAUKEE, MAY, 1882.

We send out monthly a large number of sample copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES MILLER to you yearly.

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The United States Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertising therein, by placing it in their offices where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive communications for publication from Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.

IMMIGRATION from Europe, Dominion of Canada and from the Eastern States is crowding into the Northwestern States, Territories and Provinces at a great rate and business consequently is lively.

ONE of the oldest and best established flour mills, the *City Mills* in Milwaukee are offered for sale on account of the death of the owner; this is a valuable property and millers desiring such will do well to read advertisement on another page.

WITH this number we commence the publication of a valuable article, entitled "Plain Talks About Milling," written by Richard Birkholz, milling engineer. Our readers will obtain much valuable information by reading this article carefully. It is written in very plain language and is not made useless to many by the employment of an array of mathematical figures and formulas. We are pleased to say that Mr. Birkholz will continue to be a regular contributor to our columns.

WE are gratified to inform our readers that F. B. Golley, M. D., a well known physician, resident in Milwaukee, will contribute a series of articles to the columns of the UNITED STATES MILLER, treating on the diseases with which those employed about flouring mills are liable to be afflicted, and also their remedies. The articles will be written in plain language, perfectly intelligent to all classes of readers. The first of these articles will appear in our June number.

We have devoted considerable space in this number of the UNITED STATES MILLER to the subject of grain speculation. The question of the legality of these trades, and of notes and mortgages given in payment, or to secure payment of margins is now in a fair way to final settlement before the United States Supreme Court to which the case of Smith & Lightner, brokers and members of the Chicago Board of Trade against J. H. Rountree, of Platteville, Wis., has been appealed for final adjudication. The decision will be awaited with interest.

Market Review.

Prepared expressly for the "United States Miller," by Messrs. E. P. Bacon & Co., of Milwaukee, Wis.

APRIL 29, 1882.—The Wheat Market during the past month has been under the control of a combination, both here and at Chicago, and a large short interest has existed at the latter market for this month's delivery, which has kept prices of the speculative grade from five to eight cents higher there than here. An active milling demand for local use and for shipment into the interior prevailed here during the first half of the month, which has abated, however, during the latter part, under a general feeling of weakness in the market. The cash Wheat here has been held wholly by the "Clique," who have steadily advanced prices on it from \$1.30 to \$1.35 free of storage, and have held it firm at the latter figure for the past ten days, notwithstanding the decline in the general market, at which price moderate quantities have been taken from day to day for milling.

The market for May delivery as well as more distant futures, has tended steadily downward since 20th inst., when May reached \$1.34, and during the past two or three days has declined sharply under a prevailing apprehension that the "Clique" would deliver out the Cash Wheat on 1st May, it being the supposition that it has been sold for May delivery, and the price receded to \$1.29 yesterday, rallying at the close, however to \$1.30. To-day the market is somewhat irregular, but a stronger feeling prevails, closing on noon Change at \$1.30 for May, \$1.31½ June, \$1.30½ July, \$1.20½ August.

The "visible supply" of Wheat in this country, comprising stocks in store at Lake and Sea-board ports and in transit, shows a reduction during the past four weeks of 1,752,000 bushels and is nine million bushels less than at the corresponding date last year. The reduction in the stock in store at this market during the past four weeks is 486,000 bushels; the present stock being 1,180,000 bushels.

Reports of the growing Winter Wheat are generally very favorably, but our recent advices from St. Louis state that the chinch bugs are making their appearance to an alarming extent in portions of Missouri, Kansas, and Illinois. The first new wheat arrived in St. Louis to-day from Southern Arkansas, of fair quality, and sold at \$4.50 per bushel, being bought no doubt for advertising purposes.

Closing quotations: \$1.30 for May; \$1.31½ for June; \$1.30½ for July; \$1.20½ for August.

Recent Milling Patents.

APRIL 4, 1882.

Grain weighing and measuring machine, William H. Allen, New York City.

Grain-separator, Barnard and Leas Mfg Co., Moline, Ill.

Grinding-mill, John J. and B. Clark, Elgin, Ill.

Cooling mechanism for grinding mills, John Fitzgerald, Brooklyn, N. Y.

Roller mills, Noah W. Holt, assignor to John T. Noye Manufacturing Company, Buffalo, N. Y.

Millstone, Rufus Moody, North Monmouth, Me.

Grain disintegrating machine and process for manufacturing flour, Francis Taggart, Brooklyn, N. Y., assignor to C. R. Knickerbocker, Jackson, Mich.

APRIL 11, 1882.

Oatmeal machine, William Eberhard and R. Turner, Akron, O.

Grain-transporting device—Thomas F. Horne, Cleveland, O.

Machine for cutting grooves in rolls—John R. Reynolds, assignor to Pratt & Whitney Co., Hartford, Ct.

Grain-elevator, Elias Roberts, E. Bauman and W. H. Lotz, Chicago, Ill.

APRIL 18, 1882.

Roller Mill, Richard Birkholz, Milwaukee, Wis.

Cockle separator, William E. Gorton, Eau Claire, Wis.

Millstone driver, Joab H. Wooster, Strykersville, N. Y.

The Various Processes of Grinding.

FROM EMERICH PEKAR'S REPORT TO THE HUNGARIAN GOVERNMENT.

(Translated from the *Ungarische Muehlen Zeitung* of Vienna, Austria, for *The Miller*, (London.)

In order to fully understand on its merits the competition of other countries, now opposed to the largest and most important industry of Budapest and Hungary, I consider it necessary to examine briefly the systems in use in the different countries of the world for the production of flour, the chief factor in our food supply. This notice of the Hungarian, as well as the Austrian, Bohemian, German, Swiss, French, English and Scotch processes is based on personal experience obtained on the spot, while the further data respecting the flour industry of the United States are given from various sources and direct communications.

The words—of both ancient and modern date—fine, sifted, royal, or white flour express essentially, although unconsciously, an idea which can perhaps be best conveyed in the term “relatively branless flour.” In the production of flour free from bran seven of the component parts of the wheat berry are removed, viz., the exterior skin, the outer and inner coating of the berry, and the perisperm and germ, for notwithstanding their nourishing properties, a quality absent only in the germ, they are unsuitable for the nutriment of the human body, because the stomach and intestines are not capable of dissolving them and therefore cannot assimilate them. Although it has only been in modern times, with the help of physiology and chemistry, that the value of these parts and their appointed role, for food purposes have been established (concerning which many perverted views exist even now), still the production of flour free from bran has, since the most ancient times, been an object towards which man unconsciously strove. The custom practiced at the present day, of the domestic sifting or dressing wheat passed once through stones in low grinding serves as an illustration of this statement. The group of six coatings, together with the germ, being tougher and more elastic than the albumen, the real flour-producing material, they remain, in flat grinding, in larger pieces than the mass forming the white flour, and consequently they can be separated according to size. But the cutting and crushing and pounding action of the stones, while tearing the bran into such large pieces, detaches from its surface such minute particles of bran that they are of no larger bulk than the flour particles and pass through with them in the dressing. Flat ground flour dressed twice is comparatively free from bran and fine middlings, still, although it appears outwardly whiter and more regular than ordinary meal, it contains in reality an extraordinary number of bran particles.

We can say of the two chief varieties of material in the manufacture of flour, the *triticum sativum vel vulgare* and the *triticum turgidum*, that the soil, according to the climate, exerts various influences on the berry, observable in two essentially different forms. Under the influence of a damp and sunless climate, or one damp and tempered by surrounding seas, the wheat berry assumes a nice appearance, being large, thick, and plump. Its color is usually brighter, the outer coatings are tougher and more elastic, the endosperm is floury, white, with a crumbling, powdery break, and easy to grind. The percentage of gluten it contains is small in proportion to its nutritive properties. The same variety of wheat will develop totally different properties, and be of different formation, if grown in a climate where it is exposed to a hot and intense sunshine, and dryness at the period of ripening, the more so if sown in a strong or even virgin soil. The outer coatings are then dry, friable, and brittle, the endosperm is homogeneous, with the so-called steely break, shiny on the surface where cut, and seldom showing any dark-coloured fine spots. Its percentage of gluten, and consequently its nutritive value, is greater than the first-named variety of wheat.

According as a district possesses one or the other variety of wheat, it develops the corresponding system of grinding. We know from history how man adopted whatever by its nature gave him the least difficulty to overcome and produce the best results with the least expenditure of labor, this leading to gradual improvement. In grinding the soft wheats already referred to, the stone rubbed less off the bran, which fell off in large flakes, consequently there was less bran in the flour

and although it still contained some bran, the simple process of grinding gave the best results on this kind of wheat. If, however, we grind hard steely wheat in this manner, a large portion of the bran is rubbed to powder, making the flour five to six numbers darker, according to our mode of reckoning, although stronger and more nutritious than that made from soft wheats. After the introduction of this process for the grinding of soft wheats, which was based on the elasticity of the bran, it followed that when a stronger sunshine prevailed and ripened the berry harder, such wheat had to be damped to produce a whiter flour, in the first place to toughen the bran and thus make it less friable. This process was then adopted where hard wheats exclusively had to be ground; they were damped or sometimes even regularly soaked, so as to be able to grind them in one operation without injuring the bran. Wheat treated in this manner is produced in a large part of Germany and France, in all England, Scotland and Ireland, where fifteen or twenty years ago low grinding prevailed in all the mills, with the exception of a few hundred, the wheat being reduced in one operation; at the present time flour, as a rule, is made there in this manner.

As we have seen, this mode of grinding is based on the physical property of the wheat, and is extremely simple; the presence of these properties is not arbitrary, but is given by nature to the wheat. Low grinding, the process of reduction in one operation, spread over the whole world. The damped wheat was mostly ground at once between sandstones to flour, and, as is often still to be seen in the country districts, was sifted or dressed well or badly through a bolter. This continued so until the second half of last century, when the American War of Independence and the French Revolution destroyed the power of the guilds, then crippling all progress, and Watt's steam engine, the mightiest promotor of unfettered trade, provided the whole industry, and therefore also the flour trade, with unlimited power, which, unlike water-power, could be produced where required.

Although the art of grinding, based on physical properties of soft wheat or wheat softened by damping, did not materially alter, yet the process and the results obtained altered, in which respect extraordinary changes took place since the end of last century. The liberated States of North America were the first in the path of progress. The astonishing contrast by which the home industry of the Union was protected against the foreign trade, while the most unrestricted competition prevailed at home—a contrast that still exists—has borne its fruit. At the end of last century and the beginning of the previous one, there were mills at work in Pennsylvania and even on the Mississippi far surpassing anything then in existence in Europe. The production of one quality of flour as pure as possible, avoiding the making of inferior sorts, was attained by the mode of low grinding called the American system. The wheat was carefully cleaned before being ground, the hardest and best millstones, even as at the present day, were employed (Suesswasser quartz, such as form the riches of our Hegyalja and Barser districts), instead of the old bolter, cylindrical dressing machines clothed with silk, were used; elevators, worms, and an automatic arrangement of the machines as far as practicable, to save labor, were introduced. Thomas Ellicott and Oliver Evans, the most celebrated founders of this system, established it in 1742. They were the first to introduce the centralization of the motive power, the water-wheel, and its subsequent distribution. In 1781 the English knew but little of the progress of the Americans, for in the same year Smeaton, by means of an atmospheric engine built on Newcomer's system, raised water into a reservoir, utilizing the fall to drive the overshot wheel of the mill at Deptford. Smeaton did not make any use of the American improvements. But even in England low grinding improved enormously with Watt's steam engine after 1786, under Boulton and Watts, and afterwards under Rennie, Moudslay, Murray, and Fairbairn, whose execution of details was unexceptionable.

In France special attention was paid to milling, still they did not equal the Americans. Their “mouture à la grosse” was a simple low grinding, the meal being sifted at home, and only 16 per cent. to 18 per cent. of the bran extracted from it. The “mouture rustique” was low grinding with various grades of bolting. The bolter with the finest meshes gave the flour for the rich man, the next one that for the middle classes, and the

last one, the flour for the poor man. The “mouture économique,” contains in reality the elements of middlings milling in several operations. It originated in the sixteenth century, when a miller named Pigeault, of Senlis, produced by it a whiter flour than usual. The “mouture Lyonnaise” is a similar variation of this process, another branch of which, the “mouture à gruaux blancs” or “mouture ronde,” is at present a very important one; in this system a low grade of middlings flour is produced out of the hard wheats in making the semolinas required for macaroni manufacture. The French, partly on account of the Revolution, and partly on account of their conservative nature, did not adopt until 1818 the improvement brought from America, and then it was with machines imported from England. They did not delay in placing the stones centrally, introducing turbines, preliminary crushing rollers and improved dressing machines, and especially at the time of the building of Surville and Touillon's mill at St. Maur, as well as the Darblay mills at Corbeil, adopting and perfecting the most rational system of low grinding.

In Germany the improved system of low grinding was introduced about 1825 in a mill in Magdeburg, built by an Englishman named Murray, of Leeds. The towns of Berlin and Guben followed on the American system. Messrs. Ganzel and Wulf, who were sent by the Prussian Government to America to study the process, returned about 1827 and erected several mills on this system with excellent results. In 1828 the Bavarian Government offered a premium of £250 to anyone who would erect for his own use a three-pair mill on the American system; and about the same time the Wurtemburg Government erected a model mill on the same system. In 1836 we find in Saxony a mill on the American system at Plauen, near Dresden. In Austria its introduction commenced in Vienna, in 1840, with the building of the “Schuettel” mill, which is at present the property of a company, Roman, Uhl & Co., Limited. But this system did not satisfy the requirements there, for which reason the mill began, as happened partially in Saxony and Bohemia, to produce on the system then customary in Austria of repeated breaks and grinding of the middlings, the white extract or finest flour, which the American system was incapable of producing. At this period Sulzberger appeared with his rollers, as we shall see later on. In Hungary the first steam mill was built at Oedenburg, and in this respect our land bears the palm from Austria. The most brilliant example of a mill on the Anglo-American low grinding system was the one erected in Fiume, Hungary, with 18 pairs of stones, the “Stabilimento Commerciale di Farina,” which exists to the present day, but naturally now arranged for middlings milling. In the last century, and up to 1830 or 1840, the countries producing soft wheat made a finer and whiter flour than both Hungary and South Russia especially, and in general than those three districts of Europe which grew hard steely or half hard wheats. This was natural, for we have seen that the hard steely varieties of wheat, with their brittle bran coatings, if treated on the system then customary and renowned in the West of Europe, make an extraordinary dark flour, because not alone are the inner flour-producing portions of the berry reduced, but also a great portion of the brittle bran, which passes through the sieves with the flour, and cannot afterwards be removed, thus deteriorating the quality. This property of the steely wheat, so rich in gluten and nutritive matter, was known in Western Europe, in so far that the French and English millers pay, even to the present day, higher prices for the good soft wheat, than, for instance, for the valuable Russian sorts, with tough bran, and up to 1850 the English millers would hardly buy steely Russian wheats at all, until a miller in Durham began secretly to clean these hard varieties carefully and to damp them very much. This was done to make the bran coatings like those of the native wheats, and thus to be able to grind them at one operation without injuring the bran. The alteration of the natural property of the wheat was a success, and the miller in question enriched himself, for he could buy Russian wheats without exception at considerably lower prices than English or American.

The adoption of these means could lead to no result in Hungary, and therefore we had to seek some other method of freeing the berry from its coating of bran. In this way from small beginnings, the process of grinding the wheat by gradual breakings, following one upon another, came into extraordinary favor. Middlings milling, or rather the Hungarian system *par excellence*, consists therein, that the carefully cleaned, uninjured wheat is in the first operation (on the stones) in general broken into two pieces only, from which the flour, the middlings, and the products for further reduction, the half grains, separated according to size, are removed. The core particles are separated according to size and specific gravity by the aid of a current of air, which also removes the particles of bran knocked off and loosened from the inner parts in the first break. The secret of this process consists in the bran separation obtained in the middlings grinding, the berry being operated upon five or six times, until not quite reduced to middlings, the operation being continued on these, so that little by little the bran is entirely separated from the middlings made from the inner parts of the wheat berry, so far of course as lies within human power.

The great care and patience required in this process led the French to term it appropriately “mouture en infini,” but its results are so splendid that the more ancient system cannot produce nearly so fine flour as that obtained in middlings milling.

In our next we shall give details of this process, of such moment to us, which formerly excited the astonishment of the world, and and gave rise to so many imitations.

(To be continued.)

An Anecdote of Two Judges.

Judge Whiting was Chief Justice of Wisconsin about forty years ago. Judge Woodle was an Associate Justice. Judge Whiting was not considered a very brilliant man, but, though his perceptions were sluggish, his motives were always trustworthy.

Judge Whiting and Judge Woodle were traveling together, hearing appeals from nisi prius terms. They traveled on horseback, and on one occasion occupied a room together.

Judge Whiting had a very shapely foot (a fact which he was suspected of knowing as well as anybody). Judge Woodle had club feet (as to which he was suspected of being very sensitive). On the occasion I speak of, Judge Whiting was lying on the only bed there was in the room, with one of his shapely feet extending out of the bed. He looked up and saw Judge Woodle looking at the foot intently.

“What are you looking at?” said Judge Whiting.

“At your foot, Whiting,” said Woodle. “And, do you know, if I had your feet I would be almost willing to have your head.”

The Germ and Seam Impurities.

The first step towards making the “highest grades” of flour is to remove the “sprout germ” from the grain, and the “seam impurities” found between the lobes of the berry, before reducing the wheat to flour and middlings.

Every miller has encountered the germ or “chit” of the wheat berry, and there are probably few who have not sought to devise some means of keeping it out of the flour. The chit or germ is an essential part of the wheat, for without it the wheat could not reproduce itself; but its career of usefulness ends by the time it reaches the hopper of the mill. The demand of the present day is for white flour. Millers have learned how to make a strong flour, and the aim is now to improve the color and still preserve the strength. It is a well known fact that white flour with ordinary strength and nutritive character sells readily in the markets, and often brings a higher price than stronger and better flour. Now the germ is, in a measure, nutritious. It does not contain much albumen, but is rich in oily matter. Its nutritive character, however, is more than neutralized by the discoloration it causes in the flour, and the great majority of millers would gladly dispense with it, for the reason just cited, that good flour is nutritious enough without the germ, and people want white flour.

There is a “bluish dirt” secreted in the seam or crease of the berry that neither brush machine nor smutter can reach or remove, and millers should not lose sight of the fact that incorporating this dirt in the wheat flour does not do away with its existence. Therefore its removal at the first stage of reduction is an imperative pre-requisite of a high-grade wheat or break flour.—From *Chisholm Bros. new catalogue*.

THE recent great fire at Lake City, Minn., destroyed J. D. Cumming's mill valued at \$12,000. It was partially insured.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 118 GRAND AVENUE, MILWAUKEE, WIS.
SUBSCRIPTION PRICE.—PER YEAR, IN ADVANCE.
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[Entered at the Post Office at Milwaukee, Wis., as second class matter.]

MILWAUKEE, MAY, 1882.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

Flour Mill Directory.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY for 1882, was completed, ready for delivery February 1, 1882.

It shows that there are in the United States 21,346 flour mills and in the Dominion of Canada 1,488. The mills in the United States are distributed as follows:

Alabama, 388; Arizona, 17; Arkansas, 231; California, 209; Colorado, 52; Connecticut, 309; Dakota, 44; Delaware, 96; District of Columbia, 7; Florida, 81; Georgia, 514; Idaho, 18; Illinois, 1258; Indiana, 1163; Indian Territory, 3; Iowa, 872; Kansas, 437; Kentucky, 642; Louisiana, 41; Maine, 220; Maryland, 349; Massachusetts, 363; Michigan, 831; Minnesota, 472; Mississippi, 297; Missouri, 942; Montana, 20; Nebraska, 205; Nevada, 10; New Hampshire, 202; New Jersey, 445; New Mexico, 28; New York, 1942; North Carolina, 556; Ohio, 1462; Oregon, 129; Pennsylvania, 2786; Rhode Island, 47; South Carolina, 205; Tennessee, 620; Texas, 548; Utah, 129; Vermont, 231; Virginia, 689; Washington Territory, 45; West Virginia, 404; Wisconsin, 780; Wyoming, 3; Total, 21,356.

The directory is printed from new Burgois type on heavy tinted paper and is substantially bound. It makes a book of 200 large pages. The post offices are alphabetically arranged in each state, territory or province. The name of the mill, the kind of power used and the capacity of barrels of flour per day of 24 hours are given wherever obtained which is in thousands of instances. This work is indispensable to all business men desiring to reach the American Milling Trade.

Price Ten Dollars per copy on receipt of which it will be sent post paid to any address. Remit by registered letter, post-office money order or draft on Chicago or New York made payable to the order of E. Harrison Cawker, publisher of THE UNITED STATES MILLER, Milwaukee, Wis.

SAMUEL CAREY of 17 Broadway, New York has just issued a neat catalogue of milling machinery.

THE ST. LOUIS MILLER thinks the best preservative for highways is wide-tired wheels on all heavy wagons.

THE HUNGARIAN MILLER'S JOURNAL says that those millers who discontinue their milling papers generally are heard of in the bankruptcy court, within two years of the perpetration of such a diabolical act. Serves 'em right too, say we.

GEORGE T. SMITH of Smith Middlings Purifier fame, after a long sojourn in Europe, has again returned to the United States to settle down. Mr. Smith has spent much of the past year in traveling. Among other places he visited Pompeii and examined the old time mills unearthed from the ashes of that ill-fated city.

65,234 immigrants arrived in the United States during the month of March. Of this total number of immigrants, there arrived from England and Wales, 4,840; Ireland, 5,221; Scotland, 1,301; Austria, 1,437; Belgium, 139; Denmark, 1,367; France 541; Germany, 23,251; Hungary, 1,071; Italy, 4,213; Netherlands, 995; Norway, 607; Poland, 660; Russia, 900; Sweden, 2,689; Switzerland, 1,216; Dominion of Canada, 10,797; China, 3,792; and from all other countries, 197.

THE NEW YORK TRIBUNE in an article about employment of the patients in the Ward's Island Insane Hospital says that the engine and boilers, some of the largest in the city are managed entirely by insane patients. The Superintendent does not however think it hardly safe to employ the patients as barbers. It seems to us as if the superintendent was about as "cranky" as any of his patients to permit them to have entire charge of a steam engine and boilers.

AMERICAN COMPETITION IN GERMANY.—In a report to the Society for the Advancement of Trade, Mr. Wyngaert, the President, of the German Miller's Association, remarked that the raising of the duty on flour from 2s. 6d. to 3s. 6d. a sack has been of advantage to German millers, because it caused a diminution in the imports from Austria-Hungary,

Russia and America. Still the American flour pressed heavily on the German trade all last year, on account of the heavy stocks carried forward from 1880 and the cheap water transport up the Rhine. He then proceeds to state "that the imports of American flour would still further decrease were a practice in America of adulterating it with maize flour abolished." *The Miller.* (London.)

We are willing to wager Mr. Van den Wyngaert the price of a Cincinnati telephone that he cannot show a single barrel of American flour in Germany, direct from the American manufacturer that is adulterated with maize flour.

MINNEAPOLIS MILLING. The present actual milling capacity of Minneapolis is placed by a recent writer at 21,100 barrels per day of twenty-four hours. To keep these mills running at their full capacity on full time would require about 100,000 bushels of wheat per day or 31,200,000 for a working year of 312 days. The Minneapolis mills alone are therefore capable of grinding a greater crop than Minnesota produced last year, without the help of the other 460 flouring mills in the state.

WE WELCOME to our exchange table the *Turf, Field and Farm* published at 39 and 41 Park Row, New York. For sixteen years this paper has been the favorite journal of thousands of gentlemen throughout the country, fond of agricultural, breeding and sporting pursuits. The office of *Turf, Field and Farm* with its valuable library was destroyed by fire January 31st, but the enterprising managers did not fail to bring their paper out on time. Their new and commodious offices are now occupied and business goes on uninterruptedly. May fire never harm them again.

EARLY ROLLER-MILLS IN EUROPE.—About the first practical attempt made to use rollers for making flour, was made by Herr Helfenberg at Rorschach, Switzerland in the year 1821. The rollers were made of cast iron. Experiments were continually made until they were considered successful when Sulzberger erected a roller mill in Zurich in 1834. The first roller mill in Budapest, Hungary was built in 1839 by the "Josef Roller-Mill Stock Company." It met with much ridicule and opposition but was finally successful and its example was followed by many milling firms in Hungary, Austria and Germany. Since that time roller mills have been built in great numbers in every country in Europe.

Fortunate Mill-Builders.

Two gentlemen prominently connected with the mill-building industry were fortunate in the last local political campaign. Mr. James M. Stowell of the Cream City Iron Works was elected Mayor and Mr. Henry Smith of the millwright firm of Birge & Smith (formerly Smith Bros.) Comptroller of the City of Milwaukee. These gentlemen will doubtless merit the high esteem of their fellow-citizens by the creditable manner in which they will perform their respective duties.

Communication from Budapest.

Editor of the United States Miller.

I read in No. 5 of your paper, page 70 that "the celebrated Borsig Mill in Berlin is making very nice rye flour on rolls" and I must pray of you in order "to give honor to whom honor is due," to mention in your valuable paper at an early date that this rye-grinding is done by Ganz roller-mills with their peculiar sharp dressed rolls. Also I beg you to state that the grinding of rye by rolls has only been commenced in Europe during this last year and is done with Ganz' roller-mills, especially constructed to suit the requirements. The Borsig Mill uses 14 four-roller mills No. VIII. and 2 No. XXII.

Respectfully
PROF. MAX GRUENBAUM,

Ganz & Company, Budapest, Austria-Hungary.

Translated from the Hungarian Milling Journal for the UNITED STATES MILLER.

March 26. the stockholders of the above named company held their general meeting of which the following is a brief resume.

The prices of our manufactured articles advanced with the price of raw material although not in the same proportion. *****

The unfavorable condition of last year's harvest as might be expected had an unfavorable effect on the department of our establishment for manufacturing roller-mills. The orders for mills from Austria-Hungary were considerably less than during the previous

year but this was fully made up by increased foreign demand and on this account our sales are but a trifle less than during the previous year. The smaller mills are now generally contemplating the making of improvements and this is a favorable sign for the coming year. This, and the world-wide reputation of our roller mills leads us to believe that the roller mill branch of our business will be profitable for a long time. Our works have been run to their full capacity, and have warranted the employment of 800 additional workmen. The buildings of several departments have also been enlarged.

Recent Publications.

INDIANAPOLIS CHAMBER OF COMMERCE REPORT FOR THE YEAR 1881.—This report shows a very gratifying increase in nearly every branch of business. The report is larger and more complete than any we have yet received from Indianapolis and speaks well for the ability of secretary Henry C. Wilson.

REPORT OF DEPARTMENT OF AGRICULTURE U. S. A. contains valuable papers on Sorghum, Swine Plague, Grasses, Cattle Diseases etc. These reports are of value to the highly educated, "gentleman farmer" but are too utterly technical for service to the ordinary granger. A little less Latin, and more plain terms of easy comprehension to the average American farmer would be elements which would make these reports more desirable. As it now is, too many of these reports soon find their way to the paper-mill.

HARPER'S MAGAZINE for May, 1882. Published by Harper & Brothers, N. Y. Subscription price \$1.00 per year.

THE CENTURY MAGAZINE. The Century Co., New York, Publishers. Subscription \$4.00 per year.

ST. NICHOLAS FOR APRIL. Published by the Century Co., New York. Subscription price, \$3.00.

HENDERSON'S DIRECTORY of Manitoba and N. W. Territory for 1882. Published at Winnipeg, Manitoba. Price \$4.00

The above is a very complete directory, much larger than the former one and it will prove of great benefit to all desiring to extend their trade in the rich field north of us. We unhesitatingly can recommend the work to business men in need of such a work.

THE KNOWLES Steam Pump Works of 86 Liberty street, New York, have just issued the handsomest machinery catalogue we have seen for a long time. The paper, presswork and engraving is all of the very best quality. The cover design is excellent. The company report a large and flourishing business.

CHISHOLM BROS. CATALOGUE for 1882, by Chisholm Bros., 64 S. Clinton st., Chicago, Ill. Millers will do well to apply early for a copy of this valuable catalogue, which is a credit to the compilers.

Missouri Millers Association.

The regular annual meeting of the Missouri Millers Association took place in St. Louis, April 15th. The attendance owing to short notice was light.

An election for officers resulted as follows: President, J. F. Lawton of Carrollton, Mo.; first vice-president, Frank Hill of Cowgill & Hill, Carthage, Mo.; second vice-president, Gustavus Sessinghaus of St. Louis; treasurer, Geo. J. Plant of Geo. P. Plant & Co., St. Louis; secretary, David B. Kirk of D. B. Kirk & Co., St. Louis.

Alex. H. Smith of the Empire Milling company, St. Louis, was elected a member of the national executive committee.

The following were chosen members of the state executive committee; E. Goddard of Goddard & Sons, St. Louis, chairman; C. L. Kraft of the Camp Spring Mill company, St. Louis; Wm. Waggoner of Waggoner & Gates, Independence, Mo.; Wm. Anderson of Anderson, Henderson & Co., Columbus, Mo., and C. W. Sombart of the Sombart Milling company, Bonnville.

The report of the secretary showed the association to be entirely free from debt. The liabilities had been settled some time since, the association had money in bank and was in a more prosperous condition than ever before.

Foreign Items.

THE BRITISH AND IRISH MILLERS ASSOCIATION have concluded not to have any exhibition of milling machinery this year.

THE MILLERS' MUTUAL FIRE INSURANCE COMPANY, of London has discontinued business. Several heavy losses disheartened some of the stockholders and they concluded to settle up and quit business. Non-mutual companies are rejoicing and saying: "I told you it would be so."

THE STEVENS roller system will be exhibited at the Royal Agricultural Show in London, May next by Mr. Frederick Nell.

MESSRS. GANZ & CO., of Budapest, Austria-Hungary up to the close of the year 1881 had sold 6,340 sets of rolls. During the year 1880 they sold 1,326 sets many of them going to foreign countries.

THE METROPOLITAN MILLS CO. (LIMITED) has been organized at Shad-Thames, London, with a capital of \$1,000,000.

ANOTHER MILLERS' SCHOOL has been established in SAXONY. The tuition fees are about \$15.00 per year. The cost of comfortable board and lodging is placed at about \$150 per year.

Flour and Grain Trade Notes.

THE AVERAGE PROFITS of the leading eight flouring mills at Budapest, Hungary, the greatest milling center in Europe, for the past year was 15 per cent, averaging all the way from 26.5 per cent to 5.3 per cent.

RECENTLY 150,000 bushels of corn were sold in Logan County, Ill., for 76 cents per bushel, to be shipped to Southern States.

THE INITIATION FEE for membership in the St. Louis Merchants Exchange has been raised to \$2500. In Milwaukee it is placed at \$1000, and in Chicago at \$5000.

THE TOTAL AMOUNT of breadstuffs exported during March, 1882 were of the value of \$12,404,735 against \$22,301,161 during March 1881. The total for nine months ending March 31, 1882 were of the value of \$147,701,367, against \$204,729,787 during the period ending March 31, 1881.

IN HIS RECENT VALUABLE WORK of "The World's progress," Michael G. Mulhall, an eminent English statistician, estimates the wheat lands of the world at 105,000,000 acres, yielding 15 bushels per acre and he states the crop, consumption, surplus and deficit of each country as follows:

	Crop bus.	Consump. bus.	Surplus bus.	Deficit bus.
United States.....	400000000	250000000	150000000	.....
France.....	250000000	260000000	.....	3000000
Russia.....	160000000	80000000	80000000	2000000
Germany.....	150000000	170000000	.....	2000000
Italy.....	140000000	145000000	.....	500000
Turkey.....	9000000	8000000	10000000	.....
U. Kingdom.....	9000000	20000000	.....	11000000
Austria.....	9000000	7601000	14000000	.....
Spain & Portugal.....	8500000	8500000	.....	.....
Canada.....	4000000	3000000	10000000	.....
Australia.....	3000000	15000000	15000000	.....
Chili.....	1500000	10000000	5000000	.....
Other countries..	20000000	139000000	.....	11900000
Total.....	1540000000	1500000000	284000000	284000000

These figures represent the distribution of supply and consumption at the nearest obtainable dates to 1879, and may be regarded as affording a fair approximation to the facts of the case, says the New York Bulletin. It may be necessary, however to make some allowance for the circumstance that, at the period chosen for comparison, the crops of Europe were exceptionally light, while that of the United States was exceptionally large; it may therefore be open to question whether the distribution here exhibited is an entirely normal one. The exceptional conditions alluded to, gave to this country an ascendancy in the trade never before reached; and it is a problem which the future alone must determine how far that relative position can be maintained.

MANY OF THE MILLERS OF GREAT BRITAIN are very skillful in mixing wheats. Wheats from all parts of the world as well as home grown wheat are received at their mills, and the experienced mixer carefully examines each kind and mixes them in the proportion which he thinks will give the best results. American millers, fortunately, are not obliged to mix various foreign wheats, but the mixing of our native wheats is a good subject for them to study.

THE OHIO STATE BOARD OF AGRICULTURE estimates the coming wheat crop of that State at 35,612,190 bushels as against 37,581,094 for last year,

THE ILLINOIS DEPARTMENT OF AGRICULTURE has reports for April on the condition of the wheat crop from 500 points, which give promise of more than an average yield per acre throughout the state, the northern division being 2 per cent. above the usual condition.

THE FOREIGN TRADE FIGURES of the port of NEW YORK, for March, bear testimony to the depressing influence of speculation and "corners." With ocean freights way down, and vessel agents in some cases paying for the privilege of carrying grain as ballast, exports exclusive of specie, were more than \$10,000,000 behind those of the same month last year. The value of exports (including \$4,339,698 specie) was \$29,928,501, and of imports \$45,383,384—of which less than half a million was specie. Speculation has put, and holds grain and cotton up to figures at which they cannot be exported. The foreign demand for these staples is supplied from other sources, and the United States is paying for its exports in gold and keeping its abundant products.

COCKLE SEPARATOR MANUFACTURING COMPANY, MILWAUKEE.

GENERAL MILL FURNISHERS

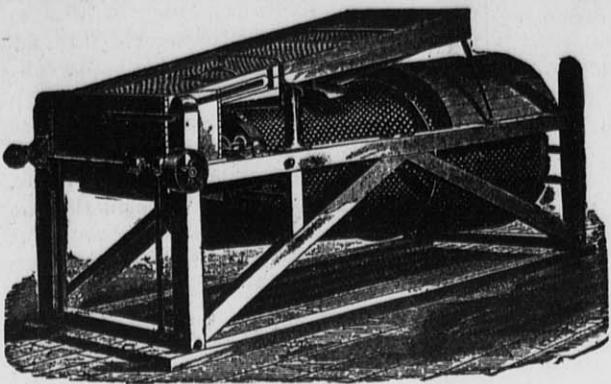
AND MANUFACTURERS OF

IMPROVED COCKLE SEPARATORS

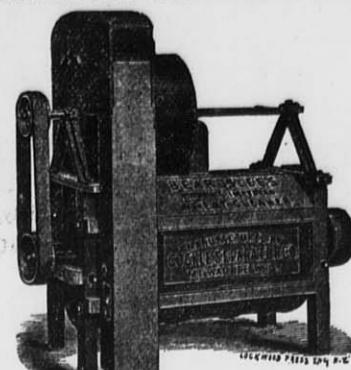
(Kurth's Patent.) Also built in combination with

Richardson's Dustless Wheat Separators!

Also Sole Manufacturer of BEARDSLEE'S PAT. GRAIN CLEANER.



PLAIN COCKLE MACHINE.



BEARDSLEE'S WHEAT CLEANER.

We will contract to furnish entire Wheat Cleaning Machinery for mills, and guarantee the best results.

Send for Illustrated Catalogue.

WE GUARANTEE GREAT CAPACITY combined with GOOD QUALITY OF WORK. Any common Sieve will separate the cockle from wheat but to separate it WITHOUT WASTE is the GREATEST FEATURE of our Machine. A WASTEFUL machine is a DAILY LOSS OF MONEY in a mill. There is NO MACHINE IN THE MARKET which can stand comparison with ours.

Carbondale, Ill., Dec. 2, 1881.

Cockle Separator Mfg. Co., Milwaukee.

Gentlemen:—Relying to your late favor, would say that we can cheerfully recommend your Cockle Separator as doing all that you claim for it. We have tested ours thoroughly by this time and know whereof we speak. We would not think of doing without it, having tried it once, and can conscientiously vouch for its good work.

Yours respectfully,

BROWN & WINFREY.

Perryville, Ind., Nov. 24, 1881.

Cockle Separator Mfg. Co., Milwaukee.

Sirs:—The combined machine I bought of you has been running about three weeks. It certainly does all you claim for it, and is the most perfect Separator that I have any knowledge of.

Yours, respectfully,

B. O. CARPENTER.

Hixton, Jackson Co., Wis., Dec. 30, '81

Cockle Separator Mfg. Co., Milwaukee.

Gents:—In answer to your inquiry of the 28th inst., I would say that the combined machine I bought of you last summer, works to my entire satisfaction. Respectfully yours,

W. T. PRICE,

per D. G. THOMAS.

P. S.—I have been milling now for twenty-seven years, but never have I seen anything that will equal yours in cleaning wheat.

As an Oat Separator it is No. 1, and for Cockle it cannot be beat. I can take screenings and separate the cockle from it without wasting any of the small wheat. In my opinion every mill in the United States ought to have one, and if I were to build a mill I would have no other. I remain

Yours, etc. D. G. THOMAS.

Minneapolis, Minn. Aug. 22, 1881.

Cockle Separator Mfg. Co.:

We have been using two of Beardslee's wheat cleaners, a scourer and finisher, for nearly two years, and are passing one hundred and fifty bushels per hour through them, one third more than rated capacity, and are not using any other cleaners, and consider our wheat as well cleaned as any in Minneapolis.

Yours truly,

CAHILL, FLETCHER & CO.

La Crosse, Wis., July 30, 1881.

Cockle Separator Mfg. Co., Milwaukee.

Gentlemen:—The Beardslee Grain Cleaner sent me about the middle of June has been in operation since that

time with very satisfactory results. I cannot see that it breaks the wheat or requires an unusual amount of power to run it.

Yours truly,

WILLIAM LISTMAN.

Milwaukee, Wis., Aug. 23, 1881.

Cockle Separator Mfg. Co.

Gentlemen:—The Beardslee's Grain Cleaners which we have purchased from you for our New Era and Milwaukee Mills give us the best of satisfaction. Experienced millers having seen the work done by the machine agree with us, that it cannot be beat. You are at liberty to use our names as a reference, and to any party calling on us we will be pleased to show the machine in operation.

Yours truly,

NEW ERA MILLING CO.

Pott's Patent Automatic Feeder!

The best device for regulating the FEED ON ROLLER MILLS, PURIFIERS, and other machines requiring a regular feed, spread out the full width. Very cheap and simple. Sent on trial upon application. Write for circulars with illustrations. Perforated Zinc of all sizes at low rates. Send for Illustrated Catalogue.

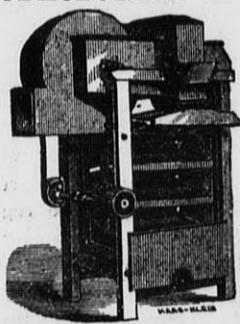
HOWES, BABCOCK & EWELL,

Established 1856.

Silver Creek, Chautauqua County, New York, U. S. A.

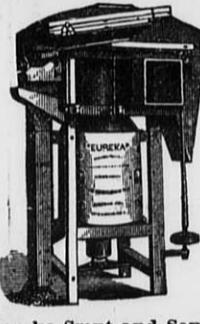
Established 1856.

MANUFACTURERS OF THE WORLD-RENNED EUREKA GRAIN CLEANING MACHINERY AND SPECIALTIES HEREWITH ILLUSTRATED



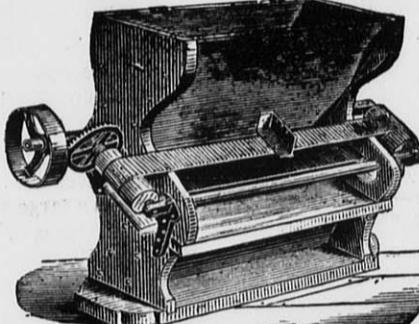
The Eureka Separator

occupies but little space, does its work in an effectual manner. Is also built for use in Ele-
vators and Warehouses, with a capacity of from
100 to 1,000 bushels per hour.



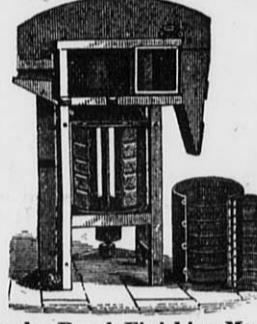
The Eureka Smut and Separating Machine,

A combined Smut and Separating Machine.
having thorough ventilation. Over 14,000 of
these Machines are now in use.



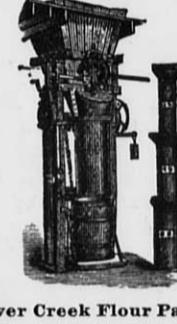
Eureka Magnetic Automatic Separator.

Removes all metallic particles from flowing stream of
grain, requiring no attention from the miller. 5 sizes.



Eureka Brush Finishing Machine

Recognized as the leading one of this
class of machines. Universally recom-
mended for finishing the process of
cleaning.



Silver Creek Flour Packer.

Will pack whole and half barrels, [and
half, quarter, eighth and sixteenth
barrel sacks. Provided with labor-sav-
ing patent creveling steel coil spring
regulating the packing to perfection.

GENUINE DUFOUR AND ANCHOR BRAND BOLTING CLOTHS.

FULL STOCK ALWAYS ON HAND, MADE UP BY THE AID OF OUR OWN
PATENTED ATTACHMENTS, IN A SUPERIOR MANNER.

Gen. Agency for Australian Colonies & New Zealand, THOS. TYSON, MELBOURNE, VICTORIA.

Abernethy's New Book.

PRACTICAL HINTS

ON

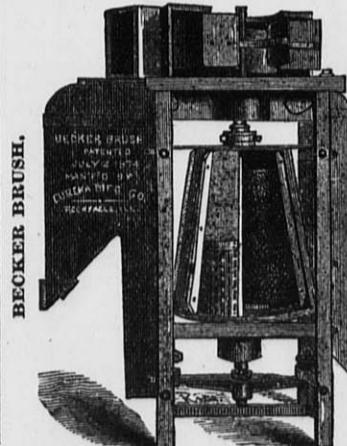
Mill Building.

The Latest, Best and Only Exclusively
Flour Mill Work in Print.

Every Miller, Millwright and Millwright's Apprentice
should have a copy.

THE UNITED STATES MILLER for one year and a copy of
this book will be sent for \$4.00. Address,

UNITED STATES MILLER,
Milwaukee, Wis.



BECKER BRUSH.

EUREKA MANUFACTURING CO.,

Manufacturers and Sole Proprietors of the

BECKER BRUSH.

AND

Galt's Combined Smut and Brush Machine.

The Only Practical Cone-Shaped Machines in the Market, and for that
Reason the Best.

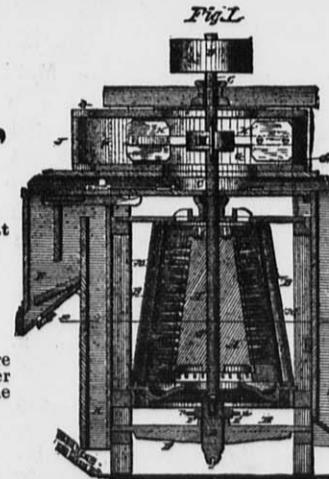
ADJUSTABLE WHILE IN MOTION.

Nearly 1,000 of these Machines in Use.

In the United States and foreign countries, and so far as we know all that use them are pleased. Millers, millwrights, and milling experts claim the Cone Shape Solid Cylinder Brush is the true principle to properly clean grain. All machines sent on trial, the users to be the judges of the work. For price and terms apply to

EUREKA MANF'G CO., ROCK FALLS, ILL., U. S. A.

[Mention this paper when you write.]



Galt's Combined Smut and Securer.

HARRIS-CORLISS ENGINE.

—BUILT BY—

WM. A. HARRIS, Providence, R. I.

Built under their original patents until their expiration. Improvements since added: "STOP MOTION ON REGULATOR," prevents engine from running away; "SELF-PACKING VALVE STEMS" (two patents), dispenses with four stuffing boxes; "RECESSED VALVE SEATS" prevent the wearing of shoulders on seats, and remedying a troublesome defect in other Corliss Engines, "BABBITT & HARRIS' PISTON PACKING" (two patents). "DRIP COLLECTING DEVICES" (one patent). Also in "General Construction" and "Superior Workmanship."

The BEST and MOST WORKMANLIKE form of the Corliss Engine now in the market, substantially built, of the best materials, and in both Condensing and Non-Condensing forms. The Condensing Engine will save from 25 to 35 per cent. of fuel, or add a like amount to the power and consume no more fuel. Small parts are made in quantities and inter-changeable, and kept in stock, for the convenience of repairs and to be placed on new work ordered at short notice.

NO OTHER engine builder has authority to state that he can furnish this engine.

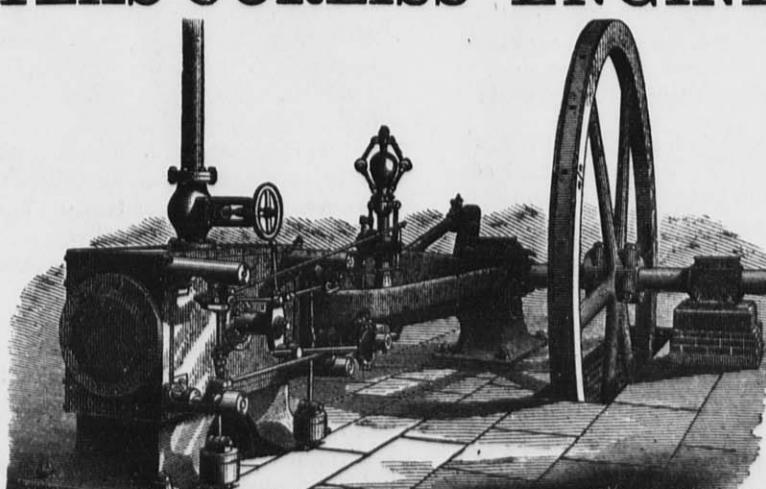
The ONLY WORKS where this engine can be obtained are at PROVIDENCE, R. I., no outside parties being licensed.

WM. A. HARRIS, Proprietor.

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ATLAS-CORLISS ENGINE.

Will Replace Ordinary Engines' Guaranteeing to Save One-Third Fuel.



ATLAS ENGINE WORKS, INDIANAPOLIS, INDIANA, U. S. A.

BUILDERS OF ALL CLASSES OF

Engines and Boilers,

We Build The Best Farm Engines and Small Engines for warehouses and elevators.

[Mention this paper when you write us.]

WRITE FOR ENGINE CATALOGUE.

The Miller's Daughter.

BY ALFRED TENNYSON.

I SEE the wealthy miller yet,
His double chin, his portly size,
And who that knew him could forget
The busy wrinkles round his eyes?
The slow wise smile that, round about
His dusty forehead dryly curl'd,
Seem'd half-within and half-without,
And full of dealings with the world?

In yonder chair I see him sit,
Three fingers round the old silver cup;
I see his gray eyes twinkle yet
At his own jest—gray eyes lit up
With summer lightnings of a soul
So full of summer warmth, so glad,
So healthy, sound, and clear and whole,
His memory scarce can make me sad.

Yet fill my glass: give me one kiss:
My own sweet Alice, we must die;
There's somewhat in this world amiss
Shall be unriddled by and by.
There's somewhat flows to us in life,
But more is taken quite away.
Pray, Alice, pray, my darling wife,
That we may die the self-same day.

Have I not found a happy earth?
I least should breathe a thought of pain.
Would God renew me from my birth
I'd almost live my life again.
So sweet it seems with thee to walk,
And once again to woo thee mine—
It seems in after-dinner talk
Across the walnuts and the wine—

To be the long and listless boy
Late-left an orphan of the squire,
Where this old mansion mounted high
Looks down upon the village spire:
For even here, where I and you
Have lived and loved alone so long,
Each morn my sleep was broken thro'
By some wild skylark's matin song.

And oft I heard the tender dove
In firry woodlands making moan;
But ere I saw your eyes, my love,
I had no motion of my own.
For scarce my life with fancy play'd
Before I dream'd that pleasant dream
Still hither, thither idly sway'd
Like those long mosses in the stream.

Or from the bridge I lean'd to hear
The milldam rushing down with noise,
And see the minnows everywhere
In crystal eddies glance and poise,
The tall flag-flowers when they sprung
Below the range of stepping-stones,
Or those three chestnuts near that hung
In masses thick with milky cones.

But, Alice, what an hour was that,
When after roving in the woods
(Twas April then), I came and sat
Below the chestnuts, when their buds
Were glistening to the breezy blue;
And on the slope, an absent fool,
I cast me down, nor thought of you,
But angled in the higher pool.

A love-song I had somewhere read,
An echo from a measured strain,
Beat time to nothing in my head
From some odd corner of the brain.
It haunted me, the morning long,
With weary sameness in the rhymes,
The phantom of a silent song,
That went and came a thousand times.

Then leapt a trout. In lazy mood
I watch'd the little circles die;
They past into the level flood,
And there a vision caught my eye;
The reflex of a beauteous form,
A glowing arm, a gleaming neck,
As when a sunbeam wavers warm
Within the dark and dimpled beck.

For you remember, you had set,
That morning, on the casement's edge
A long green box of mignonette,
And you were leaning from the ledge:
And when I raised my eyes, above
They met with two so full and bright—
Such eyes! I swear to you, my love,
That these have never lost their light.

I loved, and love dispell'd the fear
That I should die an early death;
For love posses'd the atmosphere,
And fill'd the breast with purer breath.
My mother thought, What ails the boy?
For I was altered and began
To move about the house with joy,
And with the certain step of man.

I loved the brimming wave that swam
Taro' quiet meadows round the mill,

The sleepy pool above the dam,
The pool beneath it never still.
The meal-sacks on the whitened floor,
The dark round of the dripping wheel,
The very air about the door
Made misty with the floating-meal.
And oft in ramblings on the wold,
When April nights began to blow,
And April's crescent glimmer'd cold,
I saw the village lights below;
I knew your taper far away,
And full at heart of trembling hope,
From off the wold I came, and lay
Upon the freshly-flower'd slope.

The deep brook groan'd beneath the mill:
And "by that lamp," I thought, "she sits!"
The white chalk-quarry from the hill
Gleam'd to the flying moon by fits.
"O that I were beside her now!
O will she answer if I call?"
O would she give me vow for vow,
Sweet Alice if I told her all?"

Sometimes I saw you sit and spin;
And, in the pauses of the wind,
Sometimes I heard you sing within;
Sometimes your shadow cross'd the blind.
At last you rose and moved the light,
And the long shadow of the chair
Flitted across into the night,
And all the casement darken'd there.

But when at last I dared to speak,
The lanes, you know, were white with May,
Your ripe lips moved not, but your cheek
Flush'd like the coming of the day;
And so it was—half-sly, half-shy,
You would, and would not little one?
Although I pleaded tenderly
And you and I were all alone.

And slowly was my mother brought
To yield consent to my desire:
She wish'd me happy, but she thought
I might have looked a little higher;
And I was young—to young to wed:
"Yet must I love her for your sake;
Go fetch your Alice here," she said:
Her eyelid quiver'd as she spake.

And down I went to fetch my bride;
But, Alice, you were ill at ease;
This dress and that by turns you tried,
Too fearful that you should not please.
I loved you better for your fears,
I knew you could not look but well;
And dews, that would have fall'n in tears,
I kiss'd away before they fell.

I watch'd the little flutterings,
The doubt my mother would not see;
She spoke at large of many things,
And at the last she spoke of me;
And turning look'd upon your face,
As near this door you sat apart,
And rose, and with a silent grace
Approaching, press'd you heart to heart.
Ah, well—but sing the foolish song
I gave you, Alice, on the day
When, arm in arm, we went along,
A pensive pair, and you were gay
With bridal flowers—that I may seem,
As in the nights of old, to lie
Beside the millwheel in the stream,
While those full chestnuts whisper by.

Sixth annual meeting of the Wisconsin Millers Association.

The Wisconsin State Millers Association met Tuesday, April 11, in the Newhall House, Milwaukee, with the following members present: Edward Sanderson, Milwaukee; J. A. Kimberly, Neenah; J. L. Clement, Neenah; E. W. Arndt, De Pere; B. F. Heald, Sheboygan; W. S. Green, Milford; O. Puhlman, Plymouth; Wm. Gerlach, Milwaukee; H. B. Sanderson, Milwaukee; S. H. Seamans, Milwaukee; E. Schraudenbach, Oconomowoc; Jas. Norris, Stoughton; S. P. K. Lewis, Beaver Dam; John May, Watertown; Wm. Albrecht & Co., Newburgh; J. Fliegler, Manitowoc; J. R. Davis, Jr., Neenah; Gilbert & Barber, Geneva, the representative of THE UNITED STATES MILLER and others.

President Sanderson, in calling the meeting to order, said that they had assembled together to talk over matters which had come up during the year; to discuss any new questions which might be suggested, and to select a delegate to the National Convention of millers.

Treasurer Seamans then made a statement of the financial condition of the association which showed cash on hand at last report \$701.66. Receipts during the year, \$4,143; total \$4,846.66. Disbursements to the amount of \$3,987.65 had been made, leaving a balance on hand of \$859.01. The finances of the association were well in hand, no licenses having

been issued except to members who had fully paid up.

The secretary's report was then called for and Mr. Seamans presented the following succinct and interesting resume of the labors of the association for the past year, suggesting at the same time the best course for the organization to pursue for the ensuing year.

SECRETARY'S REPORT.**Mr. President:**

Since our last meeting one year ago, we have only added one name to our list of membership. 78 firms are fully paid on the 1880 assessment, 76 have made the August payment and 72 the December payment of assessment No. 8 for 1881.

The new rating of capacity adopted at the last meeting of the National Association making 35 barrels of the output equivalent to a run of stone has, in many instances reduced the basis for assessment. Upon the old basis, our present paid up membership would equal 400 runs, while upon the present basis it is 380 runs. From present indications it will not be necessary to levy any assessment this year, and probably not next, and any future assessment will be very light.

In June last the delegates from the various state associations held a national convention in Chicago. The principal business before that convention was discussing and arranging for the settlement of the "Cochrane fraud." As your delegate to that convention, I opposed that settlement on the ground that a fraud under no circumstances should be compromised, but the majority favored the settlement on the ground of expediency and economy, thinking no doubt it was the wisest course to pursue with what had been a very costly and vexatious suit. On the 15th of November following, the sub-executive committee of the National association, met in St. Louis, with the representative of the Cochrane case claims, when the case was settled according to the terms agreed upon in convention, for the members of the association who were paid up. All others must make the best terms they can.

In 1877 this great "fraud" loomed up before us with a demand upon the mill industry of the country—according to their own estimates, for about thirty-six millions dollars, or a settlement on the basis of \$6,000 per run of stone capacity (which was modified, after our organization to \$1000 per run). Backed by a decision of the United States Supreme Court they considered their position impregnable—but combined effort, with determination, and good legal ability, has enabled us, at a small expense, to each individual miller, to get a decision of the United States supreme court—so far as it affected us—set aside—and claims that were considered very strong, by some of the highest legal talent in the United States, "melted away like dew before the morning sun." With this experience before us, the necessity for keeping up a strong organization is very apparent.

The Denchfield cases are still on the docket. Although the suits begun in Wisconsin and Minnesota are supposed to be killed by the late decisions of the supreme court, the New York cases will have to be contested, as they do not come under the terms of those decisions: The sub-executive committee of the National Association met with the Denchfield claimants at Chicago for the purpose of effecting a settlement of those claims, but their demands were so exorbitant that nothing was accomplished. This was before the late decision of the Supreme Court. We think now, they might be willing to modify their demand somewhat, if they had an opportunity offered for settlement.

With this case off our hands we will be entirely free from litigation, and I trust we may remain so—and the energy and efforts of the association turned into channels that will protect us from other impositions, equally damaging and more costly to the business than patent frauds. Front and foremost among these is the present mania for gambling in grain. The past season has been fruitful of disasters to the milling fraternity in this direction. I understand full well, the cry and accepted belief that "nothing can be done to prevent it," "there is no use trying," "it is useless to stir up this matter." Well, perhaps this is all so, but I, for one, believe that with the courts in our favor, with laws behind us, much may be accomplished by united and persistent effort. We were told, "Oh, you can't beat the 'Cochrane ring,' they have got a decision of the United States Supreme Court behind them," but this did not save their gambling scheme from defeat. A long pull, a strong pull and a pull altogether is what will accomplish the work. In this short report, I have no plan to propose or suggestion to offer, but call your attention to the subject as a fit one for the association to wrestle with. Much may be accomplished by united effort that could not be done individually. I would also call your attention to the unfinished organization of a fire insurance company. This matter has lain dormant since our meeting in April, 1880.

Last year I issued, under the auspices of the National Association, a monthly crop report, which was sent to all members of the association. I would like to know from the members present their opinion as to the advisability of continuing these reports for the present season.

S. H. SEAMANS, Sec'y,

The question of organizing a system of mutual insurance among millers came before the meeting for consideration. The secretary stated that nine incorporators were necessary to organize a company under the charter obtained by the committee on insurance from the state legislature. Mr. Schuette, of Manitowoc, chairman of the committee on insurance not being present, no report was received. A resolution was offered and adopted directing the secretary to correspond with Mr. Schuette and find out what had been done by the committee and report to the executive committee of the association, and it was further resolved that they take such action as they may deem advisable to complete the organization of the company.

President Sanderson then called attention to the reference in Mr. Seamans' report to the subject of gambling in grain. He favored action, as a means of protection to millers. He regarded all dealings in options simply gambling. The persons engaged in trading in options might as well introduce faro and other devices for gambling upon the floors of our chamber of commerce, and test their fortunes in that direction. There is no question that a large majority of the dealings at present are by a class of people who do not or do not care to hold a bushel of wheat, but

simply settle differences. Recent decisions of the courts are pretty uniformly against the legality of dealings in options, and he had no doubt that these decisions will soon be universally sustained. He thought a resolution asking the National Association to take cognizance of the question should be adopted.

Mr. J. R. Davis, jr., of Neenah, suggested the propriety of securing the passage of a state law to prohibit dealing in options. Mr. Otto Puhlmann, of Plymouth, stated that the trouble was not with the law or the courts, as there had been a decision of the supreme court declaring all option dealing illegal. The trouble was that the Board of Trade, an institution chartered by the state, considered itself above the law. The only way he could see to remedy this state of things was that a new law should be enacted in Wisconsin to bring the Board of Trade within the law, or else declare the same a public gambling house.

President Sanderson offered a resolution to submit the whole matter to the National Association for them to take action upon. Mr. Seamans opposed any movement tending to shift the responsibility from where it belonged. He said that the National Association wanted the support and backing of the state associations, and it was their duty to bear their share of the responsibility. He did not believe in whipping the devil around the stump—we must take the bull by the horns ourselves, and take prompt action upon that which is of such vital importance to us. Let our voice be heard in this matter. If the Chamber of Commerce is an illegal body let it be abolished.

Mr. Puhlman, of Plymouth, offered the following resolution:

Resolved, That a committee of five be appointed, of which the secretary of this association shall be chairman, whose duty it shall be, with such legal assistance as they may require, to draft a bill for presentation at the next meeting of the legislature providing for the suppression of gambling, or dealing, in options of grain.

Mr. Seamans offered the following as a substitute, which was accepted by Mr. Puhlman, and adopted in the following form:

Resolved, That a committee of five be appointed by the president, who shall take into consideration what course is necessary to be taken looking toward the suppression of gambling or dealing in options in grain; that they consult with such legal talent as they may deem necessary, and that they report to the executive committee the result of such investigation for their action.

Resolved, That the executive committee be instructed to carry out the report of said committee if in their judgment deemed advisable.

Mr. Schraudenbach moved that Mr. Seamans be added to the committee and act in the capacity of chairman, which was accepted without a vote. Whereupon the president named the committee as follows: S. H. Seamans, chairman; Otto Puhlman, C. Manegold, J. B. A. Kern, J. L. Clement, A. Syme.

Mr. Kimberly, of Neenah, remarked that we had just got through with one big law suit and the Lord only knows what kind of a law suit this will get us into. Mr. Puhlman further stated that there are men on the Milwaukee board of trade who buy and sell millions of bushels of wheat and cannot pay for a thousand if called upon—being perhaps only able to put up margins sufficient for a thousand bushel deal. Mr. Sanderson stated that he heard a man say on 'change a few days ago, that he had sold half a million bushels of wheat and never owned a single bushel. There is No. 2 wheat in Chicago elevators today which has been there for three years. Mr. Clement, of Neenah, said that the dealer mentioned by Mr. Sanderson was just the sort of man the association should get hold of. They are within the operation of the penal laws of the state, and should be put through. The next business in order was the nomination and election of officers.

Mr. E. W. Arndt, of De Pere, offered a resolution which was adopted, that a committee of three be appointed by the president to nominate officers for the ensuing year. The president appointed E. W. Arndt, B. F. Heald and Jas. Norris such a committee. The committee reported the following nominations:

President, E. Sanderson, Milwaukee; first vice president, J. L. Clement, Neenah; second vice president, Otto Puhlman, Plymouth; secretary and treasurer, S. H. Seamans.

The report was unanimously adopted.

The president nominated as executive committee—J. A. Kimberly, Neenah; W. S. Green, Milford; J. B. A. Kern and Chas. Manegold, Milwaukee. Mr. S. H. Seamans was nominated and unanimously elected to represent the state association in the National convention. Mr. Sanderson requested the views of the members with regard to the secretary continuing the publication of his monthly report of the crops, same as furnished last year. The members were unanimously in favor of continuing the publication. Many thought it the most reliable information they obtained from any source.

The meeting then adjourned *sine die*.

The Story of Joseph as Applied to Grain Speculators.

Our brilliant and esteemed contemporary, the Cincinnati *Commercial* comes to the defense of the "bull" speculators in food supplies who are so noted in that city, with a formidable precedent from Old Testament history. Only a constant and ingenious student of the Bible would have thought of the familiar and fascinating story of Joseph as affording an illustration of the most successful and beneficent "bull" speculations in corn on record, or could have transposed that story into the dialect of the Cincinnati and Chicago speculators of to-day, without losing its substantial accuracy and its interest.

That we do not unduly compliment our Cincinnati contemporary we will prove by giving a portion of its Westernized version of one of the most marvelously attractive of Scripture stories, viz:

Foreseeing a series of years of scarcity and famine in Egypt, and, as is claimed for him, illuminated by divine revelation, Joseph proceeded to buy up and store in the King's elevators, anciently called granaries, all the surplus wheat produced on the fat lands of the Nile Valley.

He adhered to this policy during seven years of unusual fruitfulness, and drew at will on the King's treasury for the money with which to control the market. He took all that was offered cheerfully, and ransacked the kingdom for every spare bushel of grain.

Then came the seven years of scarcity and famine. The Egyptians, having exhausted their reserves, became clamorous for food, and Joseph took advantage of their necessities and turned them to his own and the King's best account.

While our esteemed contemporary is entitled to credit for bringing at least one portion of the Bible within the easy comprehension of the Cincinnati speculators, we are sorry to be compelled to say that the *Commercial's* "improvement" of its Scripture is one of the most palpable *non sequiturs* on record. For it improvidently observes:

The only difference between the ancient and modern speculators is that now there is not an absolute monopoly of the business. Now the Josephites are numerous, but none of them have the advantage of a supernatural illumination as to futures in wheat, hence their frequent mistakes and the penalties they often pay in shipwreck of fortune. But when they are railed at and abused, as engaged in disreputable business, and at the cost of the consumer, they can point with pride to the example of the wonderful young man whose adventures on the road to fortune were not surpassed by those of Aladdin with his surprising lamp.

Now we are obliged to remark in regard to the above that when so immoral and false a deduction is drawn from so ably stated a premise, by so influential a journal, it is important to the interests of legitimate trade and business morality, to insist:

1st: That Joseph was not an example of the grain speculators of the present day, in any degree or to any extent. He, like the late Commodore Vanderbilt, paid for what he bought, "took it out of the market" and carried it without the help of any loans.

2d: Joseph did not create an artificial scarcity of corn, but bought the surplus only, and thereby "sustained prices" for the Egyptian farmers.

3d: The statement that when the famine came he "sold his supplies at the highest rates and doubtless at an enormous advance on the original cost" requires substantiation, but, at all events, he sold the corn that kept an improvident people alive and did not take their farms for the "differences" and keep the corn.

4th: There is no part of the Bible which the modern "bull" speculators in food supplies may read to greater moral advantage than that which the *Commercial* has so kindly adapted to their comprehension. Joseph's immense speculations in corn did not create an artificial scarcity of the necessities of life, but saved a whole people from starvation. It was a *bona fide* and honest operation. He did not buy imaginary corn, but the real article. If the Chicago and Cincinnati speculators would study and follow his great and good example, it would be infinitely better for the country, and, in the end, for themselves.

Perhaps Mr. Halstead, who is a humorist, and who may be unwilling to face a gang of infuriated speculators in "futures," thought that the moral of the story of Joseph would be irresistible and that his *non sequitur* would be easily discovered to be a fine piece of irony.—*New York Mail*.

Prehistoric Mining in Michigan.

The Lake Superior mines have the advantage of producing metal free from any alloy of antimony or nickel or arsenic. In many of the mines great masses of native metal are found so large that they must be cut in place with chisels.

All the more important mines are situated on the ancient workings of a prehistoric race. They seem to have been ignorant of the fact that copper could be melted, for they left behind them the fragments too small to use and the masses too heavy to lift. Every day they subjected it to a temperature nearly high enough, without making a discovery which would have lifted them out of the Stone Age into the Bronze Age, and perhaps have enabled them to survive the struggle in which they perished. They must have been very numerous, and have reached the point of development where they were capable of organizing industry.

In Isle Royale, near the Minong Mine, their pits, excavated to a depth of from ten to twenty feet in the solid rock, cover an area of from three to four hundred feet wide and more than a mile and a half in length. The labor expended here cannot have been much short of that involved in building a Pyramid. Isle Royale is ten miles from the nearest land, and is incapable of producing food, so that all supplies except fish must have been brought from some distant point. Their excavations could of course never go below the point at which water would accumulate. Their hammers, frequently to the number of several thousand, are found in heaps where they were evidently placed at the end of the season.

As no graves or evidences of habitations are found, we can hardly doubt that the ancient miners lived south of the great lakes, and made yearly journeys with fleets of canoes to the copper mines. The aggregate amount of the metal which they carried off must have been very great, and it has, I believe, been generally thought that the copper implements of the ancient Mexicans came from this source. M. Charnay in a recent number of the *North American* seems to think that the Mexicans reduced copper from its ores. A chemical analysis of their hatchets would solve the question, for Lake Superior copper is so free from alloys as to be unmistakable.

The superintendent of the old Caledonia Mine in Ontonagon County kindly took me to the top of a cliff where three Cornish "tributaries"—miners working not for wages but for a share of the product—had cleared out one of the ancient pits in the outcrop of the vein. They had brought out a quantity of copper, and had just uncovered a large mass which would weigh certainly not less than seven tons. Many battered stone hammers lay around the mouth of the pit. The active little Englishmen, belonging to a race of hereditary miners perhaps as old as the Mound-builders themselves, had come around the world from the east to finish the work of the departed Asiatic race who reached here from the west at a time to which no date can be assigned. Not far away another party had cut down a dead cedar to make props for their tunnel. As they were putting the log in position, from its center dropped a small but perfectly formed stone hammer which had never been used. It was made from a stone found, I believe, only on the north shore of the lake. This tree was not far from two hundred and fifty years old; but as cedar is almost indestructible in this climate, it may have been dead several hundred years.

The axeman said that he had found several hammers in the centre of cedars. It would seem barely possible that this hammer had been placed in a cleft of the three, when it was a sapling, that the wood might grow around the groove and serve as a handle. At all events, this one, which I have, was certainly placed where it was—about thirty inches from the ground—by human hands, undoubtedly by the ancient miner himself, when the tree was a twig.—F. JOHNSON, Jr., in *Harper's Magazine* for May.

Some Mississippi Overflows.

The history of the Mississippi Delta is a history of repeated overflows.

Francois Xavier Martin records an extraordinary rise in 1718.

Gayerre states that in 1735 the waters were so high that many levees were broken and New Orleans was inundated.

A great flood is recorded by Gov. Sargent as occurring in 1770, of which few particulars are given.

In 1782 the whole districts of Attakapas and Opelousas were inundated.

Another overflow occurred in 1785, another in 1791, others in 1796 and 1799, and 1800, according to Gov. Sargent; the resulting devastation was so great that the people imagined the Northern lakes had broken through a channel to the river.

In 1811 and 1813 the river again broke through the levees, inundating the entire Teche Country, and in 1815 "a very great flood" occurred, in which the Ohio River reached at its mouth the highest point ever recorded,

Again in 1816, 1823 and 1824 portions of the country were overflowed.

Between 1824 and 1860 seven "great" floods are recorded, respectively in 1828, 1844, 1849, 1850, 1851, 1858 and 1859. All these were marked with great destruction of property, but that of 1850 was by far the worst, the damage occasioned being immense, the St. Francis, Tensas, and Yazoo Bottoms being entirely submerged. The principal breaks in the levee were above the Louisiana line at Bayou Macon, at Point Lookout, at Island No. 102, at New Carthage and Rodney. The waters during this overflow rose steadily until March 15, then declined slowly until early in April, then rose again until the middle of May when they attained their highest point, and then rapidly subsided, resulting in the almost entire destruction of the crops.—St. Louis Miller.

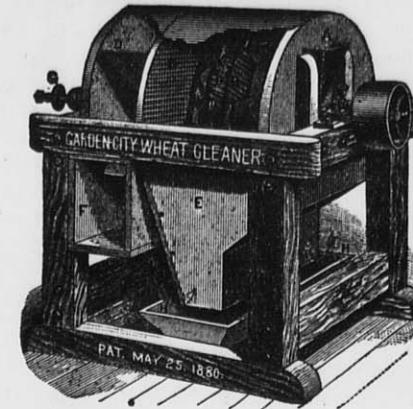
Ancient Engineering.

The ancients, when all is said and done that can be, in favor of modern prowess and progress, knew a few things that we moderns have no sort of conception of. In a late celebrated work on architecture, the author says that not only is it impossible to duplicate the great temples of Athens, but it is inconceivable how they were constructed. The same may be said of the temples and the pyramids of Egypt. The Roman roads were superior to any constructed in modern times. Their very remains are stupendous. The ancient canals of India and her immense water reservoirs, including their sites, are incapable of being improved upon. In fact, the very ruins of the ancient are "tremendous." One of the latest discoveries of the wonderful engineering ability of these ancients is the fact that, in preparing to cut a tunnel through the Isthmus of Corinth, it has been brought to light that the Roman Nero, as notorious for his cruelty as for his love of the arts, sciences and literature, had engineers upon the same spot; and more, that the route selected by them has been selected by the engineers now having charge of the modern undertaking. But Nero was preceded by Alexander the Great in the attempt to carry out the colossal undertaking, and in both instances, the engineers showed themselves to have thoroughly mastered the conditions required for the inception of the work.

Splendid Joke on His Wife.

Dave Goudy is one of the driest jokers in the world, and he had just as soon play a joke on a member of his own family as not. Dave's wife is a friend of his, and so she is subject to his jokes. She hates Indians, and always locks the doors when she sees the beggars who camp around Beaver Dam coming toward the house. Dave knew this, so he hired an Indian to go up to the house and get in, with a pass key, and beg a pair of Dave's old pants of the good wife, which she would gladly give to get rid of him, and then offered the Indian 50 cents if he would go right into the parlor and put the pants on. Dave thought it would be a splendid joke on his wife, and he got a drug store man named Griffis to go with him and watch the fun from a distance. The Indian got into the house, and when he asked for a pair of old pants the good lady saw through the joke and she gave him Dave's Sunday pants, and he went into the parlor and was going to put them on. This was too much for her, and she went to the kitchen and got a dipper of hot water. Nobody knows exactly what occurred, but Dave and Griffis suddenly saw an Indian come out of the front door, with one leg in a pair of black doeskin pants and the other pant leg dangling in the air, and the Indian yelled as though he was in pain, and he pulled out for the camp up the lake about six miles. As he passed the two gentlemen the Indian said: "Squaw heap spunk. Ugh! Hot water," and he was gone. Dave went home and asked what the news was, and found that he was out of a pair of Sunday pants in the pocket of which was \$12 in money, and his wife says when he wants to send his friends up to the house for any more pants to do so, by all means. She will be at home. *Beaver Dam (Wis.) Argus.*

"BEST IN THE WORLD."

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Gathmann's patent "inclined bristles" prevents all clogging when the brushes are run close together. This is the

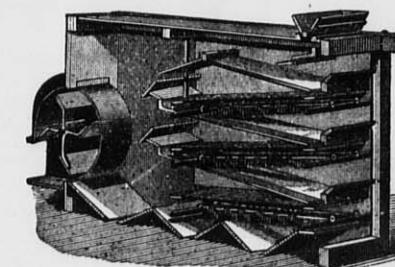
ONLY DOUBLE BRUSH

Which can be set up close so that it will

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Guaranteed to IMPROVE COLOR of the FLOUR.

It don't break or scratch the grain. Removes all the dust. Very light running. Send for circular and prices.

Prices Reduced!**Improved Garden City****Middlings Purifier!****With Travelling Cloth Cleaners**

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Mention this paper when you write us.

Legality of Grain Contracts.

REVIEW OF THE DECISION OF THE SUPREME COURT OF THE STATE OF WISCONSIN, UPON GRAIN CONTRACTS, BY GEO. B. GOODWIN, ATTORNEY OF MILWAUKEE CHAMBER OF COMMERCE.

The case of Barnard vs. Backhouse, upon the subject of grain contracts, just decided in our Supreme Court, published in The Legal News on the 23d of July, although involving no particular new theory upon that subject, is of much importance to the public, as it involves methods of trade connected with commission men and the Chamber of Commerce. The action was brought upon a promissory note, given in settlement of a contract for the purchase of wheat and the Supreme Court reversed the decision of the County Court holding that the note was tainted with a gambling debt and was therefore void.

The Court in this opinion says: "There can be no doubt that a contract in writing for the sale and delivery of wheat, at a future day, for a stipulated price, which is made with a bona fide intention on the one hand of delivering the property and on the other of receiving and paying for it, is perfectly valid." Again the court says: "Persons may and do purchase wheat in advance because they believe there will be a rise of price in the markets of the world in consequence of scarcity or some unusual demand; they may and do speculate in regard to future prices, exhibiting great forecast and ability, and, so long as these engagements are entered into with the intention that the subject matter of the contract shall be delivered and received in good faith, courts uphold their agreements." The court approvingly cites Justice Agnew 72, Pa., S., as follows: "It is not too much to require a party, claiming rights under such contract, to make it satisfactorily and affirmatively appear that the contract was made with an actual view to the delivery and receipt of grain."

The result reached seems to be that to make such contracts valid, there must be an intent to receive and an intent to deliver the wheat, and that this intention must be shown by the person seeking to recover, in addition to a written contract; that the *onus probandi* is on the person seeking a recovery on such contract, and that such contracts become gambling unless the subject matter of the agreement is to be delivered and received in good faith. While the rise in price is the object of the speculation, yet the court treats the subject as if the receipt or delivery of the actual grain were the speculative object, and, in the opinion of the court, the legitimate speculation for profits is rendered unlawful whenever the profits and not the subject that produces the profits is sought. The grain must be intended to be actually delivered and actually received, says the court, in good faith. This good faith is resolved by the court into an intent to receive and an intent to deliver, the intent resting in the mind of each party to the contract. The party who agrees to deliver, may have the intent to do so, but if the party to receive at the end of a bad speculation concludes that this "intent," notwithstanding his written contract, was not to receive, he can thus escape liability.

In a gambling contract, which the statute prohibits, there must be at least two parties to the engagement, but a wheat deal is pronounced unlawful if only one of the parties to the contract had an intent either not to deliver or not to receive, no matter what the written contract is. By the decision, to make a valid contract, both elements must exist; therefore if one of the parties swears and makes corroborative proof, that he never intended to receive the wheat, no matter how strongly the other party avers and proves that his intention was to deliver, the contract must be held illegal, for both parties must intend to deliver and receive respectively. It then comes to this, that a commission man may bind himself in writing to deliver the wheat, and intend to deliver it, yet he cannot recover, but must go a step further and prove that the resisting party intended to receive it. The repudiator may swear to his intention and who can contradict him? If he swear falsely, no indictment for perjury will lie. He is only stating on oath his concealed and undiscoverable mental condition, at the time of the trade. He may show that the other party had no wheat on hand to deliver, and it may be replied that he was ready and willing to deliver, and yet the intent not to receive, in the mind of a repudiator will render a willingness to deliver of no avail. To the vicious evil of repudiation is thus added an inducement to falsehood, and to the taking of unpunishable oaths.

If such is the law it certainly ought not to be.

This decision also puts the burden of proof, as to the bona fides of the transaction upon the claimant. He must not only show his written contract, containing the terms and conditions of the sale, but he must support it with proof that it was not only his intent to deliver the wheat, but also the intent of the other party to receive it.

The contract has no force, its language is construed into a cover for gambling, and the party must show its hands to be clean, before they are proven to be dirty. How a person seeking to recover on such a contract should show what the repudiating party's intentions were, I cannot see, and certainly a defense interposed would be the anticipation of success to the defendant. Other courts have placed the proof of this defense on the defendant; notably in the Circuit Court for the western district of Wisconsin. Certainly that much should be rigorously required in an unconscionable defense. The written contract should be *prima facie* lawful, and the defendant at least should be forced to show clearly a gambling agreement, or fail. This, of course is a criticism upon the method of ascertaining a fact, and not upon the fact, yet it is quite material as to who shall take the laboring oar in such an action. The rule laid down by the Supreme Court in this respect, is different from the rule in other cases. The presumption that holds in every other kind of contract is not in wheat deals, allowed, and the contract comes into court worse than a criminal, without a presumption in favor of its legality.

A single illustration will show how easily a person may repudiate by taking advantage of this requirement of the decision by showing his own intentions. A contract for future sale of grain may pass through twenty hands before maturity. When a purchase is made and entered by the commission house, it may do service in setting it off against other outstanding contracts, and large amounts pass from hand to hand in the line of trade before delivery; and again, the owner of the contract anticipating a changing market, may sell the wheat which has been bought for him at a present price, and fill his last contract with his anticipated wheat, and thus save or lessen a loss, even pocket a gain, and although he has fully profited by his speculation, he can make a little more by finally insisting that he was a gambler and never intended to receive the wheat, although he ordered his broker to purchase it for him and agreed to receive it, and has traded freely on the credit of it. And according to this decision, if he can establish his intent, he must, succeed. A legitimate result of this decision, although not intended by our court, will be to give the shield of the law to a dishonest loser, and to open the door to unfortunate ones to come in and offer defences supported by evidence of negative intents.

Why should the intent existing in the mind of one of the parties have any weight as against a written contract? To say the least, why should not the defendant be required to prove that both parties had the gambling intent? And why should not the burden of proof be upon the contestant?

Suppose a purchase of wheat is made for future delivery, upon the expectation on the part of the buyer, that some calamity will unsettle the government and both parties base their calculations of gain or loss upon this expectation, this would be a lawful speculation. The buyer, however, concludes that there will be no such calamity, and like a prudent business man, he gets out of his contract by at once paying the damage or difference, anticipating the same. His written decision would be legal, and no court would sustain an action under the statute, to recover back the difference.

Suppose again, without anticipation of a calamity, but from a study of markets, territory planted, and conditions of railroads, a person concludes that wheat next September will be worth ten cents per bushel more than now, and he orders a million of bushels. He concludes, before September that conditions are better and that wheat will be two cents less, and he accordingly sells a like amount to some one else, covering his anticipated loss to a certain extent. What does it matter, in morals or in law, whether the wheat is to be actually delivered in September? He has traded in and out on his contract. He has had credit on the strength of it; and some parties have received, and all, I think, should receive the legitimate results of their forecast. How is it material whether the wheat in bulk is delivered? Would the law be any better

pleased to let A under obligations to deliver B 100,000 bushels of wheat at \$1.10, actually deliver it to B at \$1.10 and B at once sell it back to A and deliver it at once at \$1.05, thus giving B five cents on a bushel? Why not each keep his own wheat and pay the difference? Why send a car-load or two to B and bring back a car load or two, when a balance and check would settle it? Delivery is no element in the transaction. Any commission house having a responsible purchaser can deliver at any time; but it would be merely putting property down with the left hand and taking it up with the right. If there were no fixed daily market price, the case might be different. Every executory contract is formed on probabilities. Every speculation is the child of hope; and every breach of a contract is measured in damages, by differences in values at law which always satisfy contracts. The difference between a gambling and speculative contract is close but well defined. In a gambling contract, an arbitrary sum, without consideration, is put up as a forfeit on some event. The wage is measured by no value. It is neither increased nor diminished by any natural law. It is the backing of an opinion resting on chance. Such contracts are obviously demoralizing and run against public policy. The loss of the wage is total, without the intervention of wit, risk or credit. A time wheat contract does not have this element. It is based upon the future, but inevitable condition of the wheat market, where the price of wheat is fixed and determined by the laws of trade, supply and demand. The event is not uncertain; the amount to be paid one way or the other is measured by the market, just as the amount of damages for a breach of such contracts is fixed in the law by the market.

You may bet a million of dollars that it will rain to-morrow. There is no limit to the amount that may be bet, and it has no relation to the event. The happening of the event causes the wage to change hands. This is far different from making a contract to sell wheat. In such contracts, margins are a part of the purchase money, the market fixes the amount you must pay if you fail to receive or fail to deliver. Nothing is forfeited, nothing is bet, nothing is left to chance. If you fail to deliver and are sued, the court will give you in damage, the difference between the contract price and the market price on the day of fulfillment. It seems to me that the error is, in considering the wheat delivery, in form and not its equivalent, as all important. Under this decision it is established that the contract is void, even though the broker, pursuant to his written contract, tenders the wheat. Why should not the tender of the wheat to the purchaser make the contract solid? What gambling arrangement can be conceived where a fulfilment of the contract could be made by a tender of anything. It seems to me that the courts confuse margins with wagers or bet money. They are not. They are payments on the contract. They are not wage money any more than the part of the purchase money of a piece of land may be said to be a wager, which may be lost. The purchaser may conclude that the land is too dear, or land may have fallen in the market, and the purchaser may prefer to let it go and loose what he has paid and pay the damages. If the margins are not the wage, then where does the gambling arise? Can it be said that the wage money is the difference in market prices? Clearly not; because that is only the amount that the court would compel you to pay, if you did not fulfil your agreement.

A knowledge of the extent of wheat exchange is of benefit in considering the question. Commission houses in Milwaukee daily, and almost hourly, receive orders from all parts of the country and from Europe by mail and telegraph for the purchase or sale of wheat, by the thousands of bushels. These dealings continue, until mutual obligations to sell or deliver may be very extensive. Trade, consulting shortest methods as the best, has a sort of exchange, setting off one contract against another, just as banks have their clearing houses. To deprive commission men of this right of exchange would almost stop business. So too, the single purchaser has agreed to buy 10,000 bushels on a fixed date. Instead of receiving 10,000 bushels and selling it immediately and paying or receiving the difference, he exchanges the subject matter. Our Supreme court, however, says if it is intended practically and in effect to make this exchange, and pay the difference when the contract is made, the contract would be void. The effect of the decision seems then to be, to make wheat trades

moral, by making them difficult, or by giving dishonest men a chance to repudiate their written contracts.

In conclusion I call attention to the fact that the Legislature of this state has sanctioned the contracts pronounced by this decision to be illegal. The Chamber of Commerce has authority under its charter to expel a member and deprive him of valuable rights and privileges if he does not fulfil the kind of contracts in this decision pronounced void. The legislature knew the methods of business of this corporation, the courts have recognized its authority and its disciplinary rights. So have the legislatures, in nearly every state, chartered like institutions with like power. The court, however, says that a person may have his property forfeited for repudiating a contract which the court pronounces illegal, and that contracts, the making of which the Legislature has sanctioned by chartering an institution for that kind of business, are illegal and void.

Infant Food.

There are about twenty European preparations styled infant foods, beginning with that of Nestle, and at least twice as many American, all of which profess to furnish a complete nutrition for the infant during the first few months of its existence, while yet the conversion of starch into dextrine and sugar is beyond the capacity of the untrained digestive function. The examination of these with a microscope, assisted by such simple tests as iodine, which turns starch cells blue, and gluten (or albuminous) granules yellow, has engaged the careful attention of Dr. Ephraim Cutter, of Cambridge, and his results will startle most mothers who have relied upon the extravagant pretenses set forth in the circulars of manufacturers. Eliza McDonough, who preceded Dr. Cutter in this field, has been in a measure discredited; but it appears that her assertion—that the starch so far from being transformed into dextrine, was not sufficiently altered to render the recognition of its source difficult, whether from wheat, corn, rye or barley—was strictly true, and that these pretentious foods are, without exception, nearly valueless for dietetic purposes. All of them consist of baked flour mainly, either alone or mixed with sugar, milk or salts. In some cases the baking has been very inadequately performed, and the doctor found one that consisted merely of wheat and oats whose starch cells were proximately in their natural condition. The general result of Dr. Cutter's examination may be stated in brief terms as follows: There was scarcely a single one of the so-called infant foods that contained a quantity of gluten as large as that contained in ordinary wheat flour. That is to say, a well compounded wheat gruel is superior to any of them, particularly when broiled with a little milk; and mothers are in error who place the slightest dependence upon them. As respects one very expensive article, professing to possess 270 parts in every 1,000 of phosphatic salts in connection with gluten, Dr. Cutter was unable to find any gluten at all. The thing was nearly pure starch sold at an exorbitant price as a nerve and brain food, and a great remedy for rickets. So all through the list. Sometimes a trace of gluten was present; more frequently none at all. In one case there were ninety parts of starch to ten of gluten; but this was exceptional, and the majority were less valuable, ounce for ounce, than ordinary wheat flour. Considering the semi-philanthropic pretensions that have been put forth by the manufacturers of these foods, some of them sustained by the certificates of eminent physicians, the report of Dr. Cutter is one of the dreariest comments upon human nature that has recently fallen under the notice of the journalist. But if the revelation he has made of fraud and pretense on the part of manufacturers in this field shall serve to protect mothers from further betrayal, and to rescue infant life from quack articles of nutriment, his work, though giving a tremendous shock to our sensibilities and to our faith in medical certificates, will not have been done in vain.—*New York Times*.

A GERMAN correspondent of *Die Muehle*, published at Liepsig, Germany, thinks that the late great depression in the milling business is caused principally by the increased capacity for production and by grain speculation.

Quite a number of heavy failures have been announced in Europe during the past two months of persons and firms in the milling and grain trades.

NEWS.

Everybody Reads This.

ITEMS GATHERED FROM CORRESPONDENTS, TELEGRAMS AND EXCHANGERS.

WATERTOWN, Dak., will soon have a new roller mill.

ADAM BAER, miller at Greensburgh, Pa., is dead.

J. D. CHUBB is building a mill at Silver Creek, Minn.

Burned, E. & G. Folton's mill at Acton, Ontario.

M. S. REXFORD is building a mill at Norman, Dakota.

BURNED—Gowen Bros' mill at North Chester, Vermont.

H. WOLBORN has sold his mill at Carey, O., to J. C. Shaler.

EMIL SPIELER, of Creole, Ark., is building a custom mill.

EBENEZER WHEELER has sold his mill at St. Johnsbury, Vt.

A NEW mill is being built at Huntsville, Ala., for Wm. Hussey.

J. F. & J. L. Shields have sold their flour mill at Thompson, Ga.

J. R. Roberts is building a custom mill at Georgetown, Tex.

S. G. COOK has purchased the mill at Maguire, Minn., for \$75,000.

STEVENS & BARKER, of Chicago, Ill., have dissolved partnership.

Anthony Benning & Sons are building a mill at Frankfort, Minn.

WHITTINGTON & FRAZEE, of Calhoun, Ill., are remodeling their mill.

Mrs. J. B. McDougal has purchased Craske's mill at Stirling, Ontario.

BURNED—Krutz & Washburne's flour mill at Junction City, Oregon.

PERRY HUTCHINSON is building the largest mill in Kansas, at Marysville.

SHELLENGER & HUFFMAN, at Healdsburg, Cal., have sold their mill.

THE Pillsbury A mill at Minneapolis is lighted throughout by electricity.

WM. RUDOW, of Osceola, Wis., is changing his Cascade mill to a roller mill.

W. S. GILBERT's mill at Staunton, Ind., is being enlarged and remodeled.

THE Anchor Milling Co., of St. Louis, are putting in 10 pair of Gray Rolls.

JORDAN BROS. mill, at Lower Verde, Arizona, was recently destroyed by fire.

HEAZLEY & SON, of Osnaburgh, O., have sold out to George Leibtag & Co.

JAMES HARVEY, of the milling firm Mann & Harvey, at Wilber, Neb., is dead.

LINN & COOPER are building an 80 barrel steam flour mill at Humboldt, Nebraska.

RECTOR & SON, of Nebraska City, Neb., have sold their mill to John F. Kennedy.

J. J. MELVIN & SON, of Comstock, Ky., have sold their mill to Francis H. Beard.

D. H. MORSE succeeded Morse & Hazen in the milling business at Hartford, Vt.

C. H. NUTTER & CO., of Brighton, Ill., have ordered a full line of the Gray Rolls.

THE Star City Hominy & Flour Co., is the name of the new firm at Lafayette, Ind.

STRATTON & POWELL succeed J. K. P. Walker in the milling business at Corning, Ark.

G. W. BIRD & CO., succeed Eikerman & Bird, in the milling business at Oswego, Kan.

THORNTON & CHESTER's new roller mill at Lockport, N. Y., is to be completed by July 1st.

J. S. WRIGHT & CO., Blue Rapids, Kan., are succeeded in business by Cyrus Upham, Son & Co.

HORACE DAVIS & CO's new 1000 barrel roller mill in San Francisco, is now running on full time.

WILSON & CLOUGH, of Chesaning, Mich., are succeeded in the milling business by Chapman & Co.

E. J. SHeldon, of Manchester, N. Y., is putting in the Gray Reduction and Separating Machines.

THE Kehlor Milling Co., of St. Louis, have ordered a 28x48 Reynolds Corliss Engine, for their new mill.

THE New Era Mills, of Milwaukee, are largely increasing their capacity and putting in the Gray Rolls.

WARD & TYSON, millers at Limerick, Pa., have dissolved partnership; J. & C. Ward continue the business.

CHAS. TROUPE, of Watseka, Ill., is about commencing the erection of a three run new process flouring mill.

A "Kansas Zephyr" recently badly demoralized the Woodbine Flour Mill and moved it from its foundations.

THE milling firm of Damp & Drayton, at Ashland, O., is dissolved. The business will be continued by John Damp.

THE Indianapolis flouring mills have a capacity of 2000 barrels per day. The product for 1881 was 249,367 barrels.

HARRINGTON & MOOREHOUSE, of Jefferson, Iowa, are improving their mill and putting in the Gray Rolls and System.

Styles & Johnson, millers at Monroe, Mich., have dissolved partnership. Each will continue in the milling business.

APRIL 2, Sperry & Co's mill and warehouse at Stockton, Cal., was burned. Loss \$200,000, with an insurance of \$80,000.

A CYCLONE destroyed several business houses at Chase, Kan., April 7th and killed J. E. Reid, the hotel proprietor at that place.

THE high water in Coon River recently undermined Bert & Demeer's mill at Grant City, Ia., and nearly destroyed the mill.

A. H. SIBLEY's grist mill at Baltimore, was recently destroyed by a boiler explosion. Several persons were killed and many injured.

THE "City Mills," Toronto, Canada, were damaged by fire, March 31, to the extent of about \$4000. The mill was unoccupied.

THE John T. Noye Mfg. Co., of Buffalo, N. Y., have purchased the patent for England covering the Cosgrove Concentrated Roller Mill.

MESSRS. TROW & CO., have completed their new mill at Madison, Ind. It is to be hoped that the fire fiend will now cease pursuing them.

KIMBALL & BEEDY, millers at Forest City, Minn., have made an assignment to H. Stevens. Liabilities are placed at \$30,000. Secured claims \$15,000.

ALL owners of mill-dams in Kansas have been notified by State Fish Commissioner Long to have fish-ways placed in their dams by May 1st.

MESSRS. Geo. Priest & Co., of Decatur, Ill., are putting in 36 pairs of the Odell Roller-mills manufactured by the Stilwell & Bierce Mfg. Co., of Dayton, Ohio.

APRIL 17th the Milwaukee millers purchased of Peter McGeoch, 225,000 bushels of wheat. Mr. McGeoch owns nearly all the wheat in store in Milwaukee.

THE Franklin Mill Co. now building a mill at Appleton, Wis., are putting in 11 Odell roller-mills, manufactured by the Stilwell & Bierce Mfg. Co., of Dayton, O.

THE niece of Mr. Andrew Hunter, the Chicago manufacturer of middlings purifiers, was recently married at the British Embassy, in London, to Sir Sidney Waterlow.

PAGE, NORTON & CO., of North Topeka, Kan., are improving their mill by the addition of six pairs of Gray Corrugated Rolls and four pairs of Wegmann's Patent Porcelain Rolls.

SMITH BROS., of Canandaigua, N. Y., are putting in the Gray Rolls; using the new Combined Reduction and Separating Machine. Edw. P. Allis & Co., of Milwaukee, have the contract.

BURNED.—April 20th the flouring mills at Peoria, Ill., owned by Geo. H. Cox. Loss \$40,000. Insurance \$17,000. The fire originated in the smut room in the upper story of the mill.

THE "Monmouth Merchant Mills," at Monmouth, Ill., have contracted with R. L. Downton, of St. Louis, to change their mill into a roller mill of the highest grade of manufacture.

The flouring mill at Wrightstown, near Neillsville, Wis., was burned recently. The mill was owned by C. Blakeslee, of Neillsville, whose loss is estimated at \$6,000, with an insurance of \$4,000.

Is the majority vote in the New York legislature indicate the feeling of the citizens of that state, free canals will soon be open to the public. The people will vote on the question next November.

THE large Eufaula Mills at Eufaula, which was built in 1877, by Nordyke & Marmon Co., of Indianapolis, Ind., are adding three run of buhrs, which are being furnished by the original builders.

ON March 28, the Eclipse Milling Co., of St. Paul Minn., filed articles of incorporation to do a general milling and elevator business, with a capital stock of \$75,000, and privilege of increasing it to \$150,000.

THE King's County Flour Mills of Brooklyn N. Y., Messrs. Tonjes, Moller & Co., Prop's, are changing to the roller system. They have ordered of Edw. P. Allis & Co., 36 pairs of Gray and Wegmann Rolls.

M. L. AYER & SON, of Burlington, Wis., have placed the order for their changing of their mill to the full roller system with Edw. P. Allis & Co., Milwaukee. They will use Gray's Patent Noiseless Roller Mills.

E. M. BEACH & SONS, of Osborne City, Kan., are erecting an addition 30x30 feet to their flouring mill at that place. It is to be used for storage purposes. This mill is constructed of the white magnesian stone found in that vicinity, and is both handsome and spacious. Its

water power is said to be steady and to afford sufficient power at all times. During the past two months the owners have bought over 5,000 bushels of wheat. They report that the scarcity of good wheat has not been an obstacle to them and that they have kept their mill running at full capacity all winter.

THE milling firm of Clement & Stevens, of Neenah, Wis., is dissolved. Jackson L. Clement will continue the milling business. Mr. Stevens' attention is occupied with the Stevens Roller Mills and other milling inventions.

THE Elizabethport Flouring Mills Co., at Elizabethport, N. J., are increasing the capacity of the mill, and adding four run of stones, which with additional fixtures are being furnished by Nordyke & Marmon Co., of Indianapolis, Ind.

KEELY, of motor fame, has been ordered by one of the Philadelphia courts to divulge his secret. He has spent \$150,000 of other people's money to no purpose, except to prove that there are fools in the world, and his fools are getting tired of waiting.

MESSRS. NORDYKE & MARMON Co., of Indianapolis, Ind., are remodeling all the four mills situated within the town of Pendleton, Ind. Potts & Parker and B. F. Aimen's mills are undergoing extensive alterations which will place them on a footing with the best.

MESSRS. I. Q. HALTEMAN & CO., of St. Louis, are rebuilding Engelke & Feiner's "Southern Mills," and will furnish them with a ten run of 4 foot buhrs. They are also supplying the Rolla Mill Co., at Rolla, Mo., with a new 30x40 engine, a line of rolls and new bolting chests.

THE Goodlander Mill and Elevator Co., of Fort Scott, Kansas, are increasing their capacity and changing to the full roller system. They will make 350 barrels per day. They will use the Gray Rolls and System, and porcelain rolls on middlings. Edw. P. Allis & Co., of Milwaukee, have contract.

THE "Patapsco B" mill just completed at Baltimore, Md., by the C. A. Gambrill Manufacturing Co., has a capacity of 500 barrels per day and the machinery is driven by a 200 horse power Corliss engine. The mill contains 23 double sets of Dawson Bros' rolls. The mill has a grain storage capacity of 125,000 bushels.

THE April freshets carried out the dam at Janesville, Wis., and all the flouring mills and several other manufacturing establishments will be compelled to lie idle until the new dam is completed, on which work has been commenced. Some of the flour mills will probably put in steam engines.

THE sewer known as the Mile Creek sewer in St. Louis, burst during the recent rains and did a great amount of damage. Among the losses were injuries to the United States Mill owned by E. Goddard & Sons. Considerable of their stock of flour was ruined. The total losses to all property owners along the line of the sewer is placed at about \$200,000.

A GRADUAL reduction roller mill of 100 barrels capacity is being built at Marion, Ill., for Wm. Aikman. The reductions are to be made on Gray rolls. The shafting pulleys and machinery comes from the Nordyke & Marmon Mill Works, at Indianapolis, Ind., while Richards & Butler of same place do the millwright work.

THE new San Francisco Grain Exchange was formally organized on March 14, in the San Francisco Stock Board building. Geo. T. Mayre, Jr., was appointed temporary chairman, and A. F. Coffin was elected temporary secretary. The chairman appointed the following committee on permanent organization and to receive applications for membership: Messrs. Homer S. King J. M. Shotwell, Joseph Marks, H. H. Noble, S. B. Wakefield, S. C. Boswell and J. Greenbaum.

A LEFFEL water wheel of fifteen and a quarter inches diameter is being made by James Leffel & Co., Springfield, O., to give 296 horse power said to be by far the largest power ever obtained from so small a wheel. The same firm are building also one of their Leffel wheels, of forty-four inches diameter, to give 325 horse power; and are building two eighty-seven inch water wheels for a party at Appleton, Wis., for a new mill; besides a wheel for driving the electric light in San Lorenzo, Mexico.

R. L. DOWNTON has contracted for overhauling and remodeling H. Human & Co's Mill at Highland, Ill. This mill is to be of from three to four hundred barrels capacity per day and guaranteed to make as good flour as the Alton Mill of E. O. Stannard & Co., recently built by R. L. Downton, which mill has so clearly shown the advantages of Downton's system of milling over other systems. Downton using the "Canson-Dawson" Corrugated Rolls for reducing wheat to middlings and the "Downton" Smooth Rolls for reducing middlings to flour.

THE determination of Crocker, Fisk & Co., to go on with the erection of their mill is announced. They will begin operations at once on the plans prepared by Mr. Pye, with the Pray Mfg. Co.'s and hope to have the mill ready for operation by the time the fall crop comes in. The mill will be 60x70 feet on the ground and six stories high. The plans will be but slightly

changed from those prepared about two months ago, which were calculated to make the new Minneapolis one of the best mills on the Falls. Work on the foundation of the new Excelsior is in progress, and the walls of the new Zeidler, Zimmermann & Co. mill are up to the first story and raising every day. This completes the list, and next fall will see Minneapolis in the field with a largely increased grinding capacity.—N. W. Miller, Minneapolis.

H. D. CARLISLE, flour inspector at Kansas City, in his report dated April 1st, says: "This being the little end of a short and poor crop of milling wheat, most mills have had to run on half time. Our flour trade has also just begun under a system of inspection, hence, while trade is not what we would have liked to have seen there has been a healthy movement. With a good crop of milling wheat this year a marked improvement may be looked for in our flour business. Realizing the importance of this interest and its future promise, a number of storehouses have been erected and other facilities provided for the better handling of flour here. Our commission men are taking more interest in the trade and working for its development. The inspections for the quarter ending April 1st were: Whole sacks, 4,064; half sacks, 24,083; barrels, 60.

APRIL 15, about three o'clock in the morning, R. W. Stubbs, Mayor of Polk City, Ia., was killed by a burglar. At that hour Mrs. Stubbs was awakened by the flash of a bright light on her face. She called her husband, who was sleeping in another bed, when she heard a voice say, "Be still," which startled her, and she again called her husband, who quickly arose in bed, and said "Get out of here," whereupon Mr. Stubbs sprang out of bed toward the door, when the light from a dark lantern was thrown on him, and at the same instant he was shot, the ball passing through his heart. He staggered forward, fell at the top of the stairway and rolled down the stairs. The deceased was a deservedly popular man, and without enemies. The supposition is that the object was robbery, as the flouring mill of deceased was entered a few weeks since, and the safe blown open. Friday evening it was entered again, as also were several residences. It was known that Mr. Stubbs usually had in his possession quite large sums of money. The murderer escaped. Suspicion rests upon three or four persons who have recently been lounging about. The vigilantes are out, and if the villain is caught there will be a neck-tie sociable, without judge or jury.—*Polk City Paper*.

Flour mill furnishing goods have recently been furnished to the following parties by C. F. Miller, of Mansfield, Ohio: S. D. Talbot, Armstrongs, Ohio, wheat cleaning machines, bolting-cloth, belting, elevator cups, conveyor flights, etc.; Messrs. House & Dawson, Mt. Gilead, Ohio, middlings purifier, bran duster, flour packer, bolting cloth and other materials; Thos. W. Shearer, Plimpton, Ohio, bolting-cloth; Heable Bros., Attica, Ohio, middlings purifier, mill stones, mill curbs, bolting-cloths and other goods; M. Kiser, Clarks, Ohio, a middlings purifier, bolting-cloth, belting, etc.; Dawson & Wherry, Cardington, Ohio, brush machine, bolting-cloth, etc.; R. B. Kline, Leipsic, O., bolting-cloth; Morris Bros., New Lisbon, Ohio, a middlings purifier, brush, smutter, bolting-cloth, belting, elevator cups, conveyor flights, middlings mill, etc., a complete new outfit; Luther Myers, Mitchell's Mills, Pa., a smutter, belting, etc.; Endslow & Heabler, New Washington, Ohio, bolting cloth; Higbee & Co., Bellevue, O., several roller mill machines; John P. Hollar, Carrollton, O., bolting-cloth; Sebold & Voelm, Sandyville, O., corn-sheller, bolting-cloth, etc.; D. Boor & Son, Defiance, O., bolt reel shafts, reel arms, reel ribs, mill curbs, Tripod Silent Feeders and other goods; D. H. Rowland, Richwood, O., a middlings purifier and middlings mill; McLaughlin & Watson, Granville, O., flour packer, shafting, gearing, proof staff and other materials; R. W. Messmore, Pancoastburg, O., bolting-cloth, belting, elevator-cups, etc.; S. Flickinger, Louisville, O., several reels of bolting-cloth; Messrs. Hall & Cook, Akron, O., middlings mill, middlings purifier, brush finishing machine, bolting-cloth, proof staff, paint staff and other goods; Henry Merchantell, Forest, O., wheat cleaning machinery; J. B. Miller & Co., Ashley, Ohio, a large lot of bolting cloth, wheat cleaning machines, middlings purifiers, bolting reels, conveyors,

Grain Gambling.

A COMMUNICATION FROM S. H. SEAMANS, SECRETARY OF THE MILLERS' NATIONAL ASSOCIATION.

What are you going to do about it? is a question more frequently asked, perhaps, than any other, of the committee appointed at the late meeting of the Wisconsin State Millers Association. The resolution under which that committee was appointed, which reads: "A committee of five shall be appointed, who shall take into consideration what course is necessary to be taken looking towards the suppression of gambling or dealing in options in grain" etc., partly answers the question. The very general terms of this resolution gives the committee a wide range, and unlimited time for investigation. They have as yet had no formal meeting, but its individual members have not been idle. As one of that committee, I can only speak personally at this time upon the question, and give only my individual ideas, that the committee is in dead earnest, and "mean business." I need only to refer to the Association of which they are members to substantiate. The action of the meeting has been the means of awakening public attention to this growing evil, and the feeling is extending that possibly something *may* be done to do away with it. I believe a remedy can, and will be found to suppress it in a great measure if not entirely, but it must be by and through laws and influences of a general character, not local; in my own mind there is no question that if the matter was a local one the remedy could be quickly found and administered, but to be effectual, as well as beneficial to all, and oppressive to none, but the gamblers, the *remedy* must be a national one. To this end, the committee will exert themselves. The New York legislature is now wrestling with this "barnacle" and at the suggestion of the writer, the Secretary of the New York State Association, visited Albany, Wednesday of this week to urge upon that committee the necessity of devising a remedy and its adoption by the legislature. In the course of my individual investigations I find some of the states have already laws, that only need enforcing to accomplish the result desired. When *all* the states are thus provided, the National Association can then exert its power. I understand that Tennessee has a law which is very stringent. Under it, a recent case was tried, whereby the plaintiff sought to recover a debt, the result of speculation in option cotton, the defendant plead the law declaring such deals gambling, (where no intent to deliver the property) therefore void. The judge sustained the plea, whereupon the parties were arrested for gambling, a penal offense against the laws, were found guilty and sentenced to the state prison for one year each. When we can achieve such results, may we hope the end is near. I have written for a copy of the law, the trial and the decision, which I trust will give our committee some light upon the legal and legislative aspect of the case. Since the meeting of our association, the subject has caused considerable discussion upon the Milwaukee Chamber and I must admit being greatly surprised, at the large number, even among those doing a large brokerage business in options, who are desirous to have that part of the business done away with. One prominent firm made use of this language: "We have had a large option trade, but for the past six months have been working out of it as much as possible, for the reason that all the losses we have made have been on this part of our business, and the further reason that we are liable to make a loss for our customers, in which case we know if a customer is so disposed, he can bring suit against us, and collect every dollar he may have lost through our house. I believe this to be strictly true, under the present laws of Wisconsin and when the fact becomes generally known, I look to see a large number of suits brought to recover money lost. This fact alone when fully established, will do very much towards suppressing this nefarious business made possible now by the fact that a few responsible houses, carry as it were, on their backs, a host of irresponsible brokers, and firms who never receive or pay for a bushel of wheat or other grain, but deal exclusively on margins for customers, in other words, "they gamble by proxy" and the legitimate receivers give it respectability.

Much rash talk has been indulged in by the wounded "buzzards" on change, to the effect that our object is to interfere with "time contracts" and speculation; that it is the aim of the association to interfere in some way with legitimate prices in fact, to "bear" the market on wheat and

"bull" it on flour, or try to do some preposterous thing or other that will interfere with the legitimate laws of trade. I trust that rational business men will not attribute to our efforts any such fallacy. Legitimate time contracts, made in good faith with intent of fulfillment are a necessity, and required by all the laws of trade. Some healthy speculation governed by the immutable law of legitimate supply and demand is a necessary requisite to protect the rights of all producers, manufacturers and consumers.

Higher prices based upon the same law, are absolutely beneficial alike to producer and manufacturer and in no wise detrimental to the consumer. But, high prices, produced by a manipulation of the markets of the world, after the production is gathered and under the control of a few persons, and in addition thereto, three to ten times the entire product, is contracted and sold by parties who have no intention of delivery, but hope to settle by paying differences, whereby the parties controlling the "deal" are enabled to put a fictitious price upon the food products of the country, which is unwarranted by the law of supply and demand, in any market in the world is not legitimate, is no benefit to the producer, is death to the manufacturer, and very detrimental to the consumer. What we shall seek to accomplish is uniformity of legislation in the enactment of such laws as will effectually cover the case and the enforcement of the same, by and through the efforts of the several state associations, the whole to work in harmony under the auspices of the National Association. While the feasibility of the course may be questioned, its ultimate success, if persistently and judiciously managed is beyond a doubt. On the success of this or some similar scheme, depends the welfare of the immense milling interest of the country. The past season was one in which the milling industry of the country should have met with great prosperity. Our crop would have been placed in foreign markets at fair, if not very high prices, profitably alike to the producer, manufacturer and shipper, but the insane mania for speculation and particularly that part of it known as "over-trading" forced prices above a point where our millers could manufacture and dispose of their product in any market in the world. Our natural customers, Great Britain and the European Continent would not and could not pay the prices demanded by our manipulating speculator, consequently looked elsewhere to supply their wants, and worst of all for this country, remodeled their mills and by mixing the various grades of wheat, which they heretofore have been unable to use successfully, succeeded in producing a flour suitable for the trade, at a price with which our own mills could not compete. While our elevators remained gorged with nearly the entire crop and controlled by a few parties, to be used as a basis for illegitimate speculation, and which is operated at times as a power to force down prices, when required, to such an extent that panics were imminent, enabling a combination during excitement to buy not only all the cash wheat of the country, but ten to twenty millions of mythical stuff, that never had an existence. During all these recontres the milling industries of the country must remain idle, discharge their men, and wait patiently "like a bump on a log," for the advent of the "gambler settlement day" to equalize prices in order that they may start their machinery with any prospect of success. In the meantime their business has become demoralized, their customers have sought other sources to supply their wants, and yet such transactions are allowed to exist and must remain, for we are told "it cannot be prevented." If this is a fact, it is a severe commentary upon this enlightened nineteenth century. One thing is very certain, our committee propose to "wrestle" with it, if earnest, persevering effort on their part will succeed, preventing this nefarious traffic, it will be accomplished.

Yours truly,

S. H. SEAMANS.

GAMBLING IN OPTIONS.

S. H. Seamans Esq., the Secretary of the *Millers' National Association* in a recent letter says; in order that you, Mr. Editor, and the public at large may have a better idea of the beauties, and the extent to which the gambling in options, (to which the millers, as an association, complain,) may be carried on the floor of the Chamber of Commerce, I make this statement of facts. The party can be produced, with the books to prove it, under oath if necessary. The figures here given are under the amounts given to me,

but they more than substantiate the remarks uttered in convention by one milling friend from Neenah, who is neither a "wooden head" nor a "wooden shoe man."

The party to whom I have reference put into the hands of his broker \$20 for margins with which to operate. In the course of trading he bought (?) 360,000 bushels of wheat and sold (?) the same amount, making a deal of 720,000 bushels. He then operated through another broker, putting up with this broker \$30. His purchases (?) and sales (?) were each 650,000 bushels—a deal of 1,300,000 bushels and a total deal of over 2,000,000 bushels of wheat. The total margins did not exceed \$50, estimated commissions to broker \$1,250, profit to operator, "List to the mocking bird! Yet this is a "legitimate business." I hardly believe that for such was our Chamber of Commerce organized. Here is a party dealing in over 2,000,000 bushels on a capital of \$50. Well, how much of this immense amount of wheat do you suppose the party, or his broker, received or delivered, expected to receive or deliver, paid for, or received pay for, or handled in any manner? Not one bushel. Yet a capital of \$50 assisted in making prices on 2,000,000 bushels of wheat! And this is a "legitimate" business by which the "poor farmer" (everybody in this trade is anxiously looking out for the poor farmer, that he doesn't get robbed,) is to be made rich, and the consumer is to eat "cheap bread." For the benefit of the friends of this most legitimate manner of dealing, I would direct attention to the case of the "victim" who came on to the floor of the Chamber but a few years since, the possessor of many broad acres well cultivated and cared for, flocks and herds of great size, houses and lots of much value, money in plenty, a good business well established, but becoming infatuated with the mania (that is ruining more men and women too, than all the gambling hells in existence because of its chartered respectability) bought and sold, continued to buy and sell, paying and settling differences until all, or nearly all, his property had vanished. His son told me very recently that over \$200,000 had disappeared to him and his family. He was a rich farmer. It seems "the boys" look out for the rich as well as the poor farmer. To-day he deals in very limited amounts. No wheat receipts pass through his hands, or those of his broker on his account. Yet he is doing a legitimate business? On the approach of a harvest, if prospects are fair, the "gang" howl seller September, October, November, etc., way down below any reasonable figure and keep pounding it down—all for the benefit of the "poor farmer"—until the bulk of the crop is delivered, when the "legitimate" dealers wake up some fine morning and find that capital has stepped in and bought perhaps double the crop that has been grown on hand, or can be delivered. When the "wrangle" begins fictitious prices rule the crop, until "settlement day," to the detriment of all classes of business either directly or indirectly. The consumer eats his last loaf before buying more bread, knowing full well that corner prices exist, and that business which has many millions of dollars invested, giving employment to many thousand men, must sit idly by without a murmur, and list to the oft-repeated phrase: "What are you going to do about it?" The question will be sometime answered.

Speculative "Corners" and their Cure.

The appointment of a legislative committee to investigate "corners" in grain and provisions has been derided in some quarters as a sheer waste of public money. Yet there is scarcely any other subject that better deserves legislative examination. Regarding the expediency of some legislation to regulate speculation in the prime necessities of life, there is not much difference of opinion, provided any legislation of that character can be made effective without doing more harm than good. The whole country has suffered within the past year, and suffered seriously in all its great interests, because of the excessive speculation in products. Nobody denies the fact, while it is urged that speculation, within its proper limits, has its beneficial uses, there are very few who will deny that its excess has done great mischief. The endeavor to ascertain whether it can be wisely and safely restrained by law does not deserve contempt, but is eminently proper and praiseworthy.

The presumption, of course, is greatly against the success of legislation in that direction. The experiment has been tried many times. It has never resulted in any

public benefit. In no other state has the evil of improper speculation in products been more keenly felt, or its nature more clearly understood, than in Illinois, and it might have been supposed that the legislation of that state would reach the difficulty, if any could. But the Illinois law has only served to cause barren legislation. Generally acts passed have been such that public opinion has not sustained them, and in the face of public opinion their enforcement has been impracticable. In most instances, the law-making power has failed to distinguish between that speculation which is sometimes useful and that which is always and necessarily harmful.

If the committee divests itself of the cant and prejudice of the street, it will find that a "corner" is always and necessarily the fault of the seller. Any man has a right to buy all the wheat in the country if he can. Because that is always impossible, the attempt is pretty sure to result in disaster, and if made, can do not much harm except to him who makes it. But the instant that somebody sells something that does not belong to him, the situation changes. He is at the mercy of those who owns what he has sold. If agreed, they can make him pay the last cent he has in the world, and it would serve him right. He had no business to be selling the property of other people. But blundering laws and commercial customs and rules framed on purpose to promote gambling, have taken just the opposite view of the matter. They treated the man who had sold the property of others as an innocent victim, and the owners who refuse to part with their property as a band of thieves. Public instinct never sustains laws that are at the bottom unjust. Hence legislation of this sort has never been found effective. It starts on the false assumption that a man has a right to sell what does not belong to him.

The Illinois legislature erred in the opposite direction. It went on the theory that any and all contracts for future delivery were wrong. But there is not the slightest harm to any person on earth to in an agreement by a man who owns property to transfer that property to somebody else at a future time. On the contrary, such contracts have been found of the greatest public utility. The cotton manufacturer can engage the planter to deliver his cotton as the mill may need it, and thus place thousands of operatives beyond the reach of disaster in consequence of fluctuations in the market. The miller can make similar contracts for grain, and the packer for hogs, and the railroad builder for iron or steel rails and locomotives. But the whole case changes when the man who sells does not own the property sold, but takes his chances of getting it from others who do. Such a contract, instead of protecting industry against risk, exposes it to new and extraordinary perils.

The root of the whole matter is in the sale of property by men who do not own it. Persons who want a thing have the right to buy it, either on the spot or deliverable in the future. They have a right to buy all they can get, and, if anybody pleases to sell what he does not own, a "corner" necessarily comes, though the buyers may know nothing of it. Whether they do or not, their right to buy cannot be denied; the question is whether any man has a right to sell what he does not own. It is true the customs of commerce, are such that no deceit or fraud is necessarily involved in such a sale; but the root of the whole matter is the question whether the customs of commerce ought to tolerate a sale by one man of property which belongs to another man. And the question for the legislature is whether, without prejudice to legitimate business, people can be legally prevented from selling what does not belong to them. If that is done, "corners" can never arise, and speculation will be confined within comparatively safe limits; but unless it is practicable and wise to prevent sales of this precise character, it is sheer folly to meddle with the incidental evils of speculation which flow from them. Corners are simply inevitable if people sell what does not belong to them. All the other evils and pernicious consequences of speculation in products are utterly beyond the power of legislation, if the law permits a man to sell what does not belong to him.—*From the New York Tribune.*

T. W. Killey, of Elgin, Ill., is putting the Gray and porcelain rolls in his new mill.

John W. Hill, of Cincinnati, is in Milwaukee making an exhaustive economy test of the Reynolds-Corliss Compound Condensing Engine in the Daisy Mill.

E. P. Bacon & Co.,

Room 23 Chamber of Commerce,

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[Mention this paper when you write us.]

THE square man mezzures the same each way, and haint got no winny edges nor shaky lumber in him. He iz free from knots and sap, and won't warp. He is klear stuff, and I don't care what yu work him up into he won't swell, and he won't shrink. He is amungst men what good kil dried boards are among carpenters, he won't season-krack. It don't make enny difference which side ov him yu cum up to, he iz the same bigness each way, and the only way to get at him, enny how, iz to face him. He knows he iz square, and never spends enny time trieing to prove it. The square man is one ov the best shaped men the world has ever produced; he iz one of them kind ov chunks that kant alter tew fit a spot, but you must alter the spot tew fit him.—*Josh Billings*,

Dillon, Powers & Strock, of Rock Falls, Ill., are adopting the roller system and will use Gray's combined reduction and separating machines on the wheat breaks and porcelain rolls on middlings.

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TELEGRAMS:
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CONSIGNMENTS OF FLOUR SOLICITED.

SITUATION WANTED

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Steam Flouring Mill For Sale.

On account of owner's death. Four acres of land with the mill with 4000 grape vines and orchard. Mill has three run of buhrs. It is three stories high and has good stone basement; built six years ago. Mill now has a good Custom trade and is also adapted to Merchant milling. Plenty of grain raised in the vicinity with large demand for feed stuffs. A modern built frame house and barn in good order on the premises. Situated 3½ miles from Allegheny, only ¼ mile from city line. Terms: Half cash, balance on time to suit purchaser. Address

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Plans furnished when desired. Correspondence solicited.

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In the City of Milwaukee, known as the "City Mills." Capacity, 250 to 300 barrels per day. Has an established City and Shipping Trade. Mill now running.

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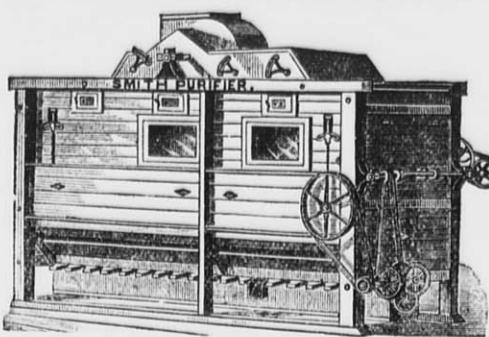
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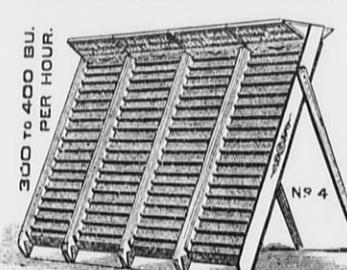
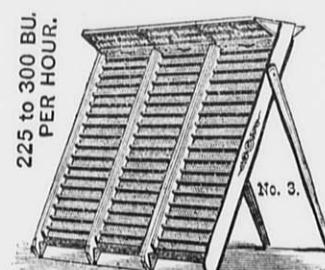
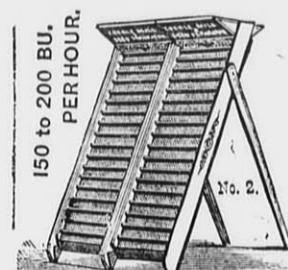
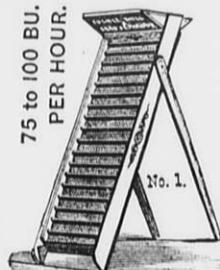
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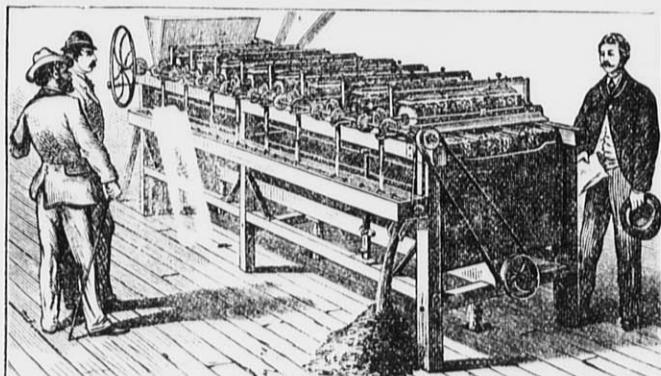
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This Company was Organized at New Haven on the first of March, 1881, with a Capital of \$300,000.

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The first Machine manufactured was put up soon after the United States patent was granted, in February, 1880, in the ATLANTIC MILLS, BROOKLYN, and has been in almost constant practical use since, demonstrating beyond a question that it possesses the following advantages:

- It Purifies Middlings Absolutely without Waste.
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SOMETHING NEW.

A Combination Electric Purifier—A Complete System of Three Purifiers in One.

Samples of work will be sent upon application, by mail, and all inquiries answered from the New York Office. Parties contemplating building new mills, or reconstructing old ones, should see the superior working of the ELECTRIC SYSTEM before making contracts for Purifiers elsewhere.

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Adapted to all Systems

Of Milling and Every Grade and Condition of Middlings.

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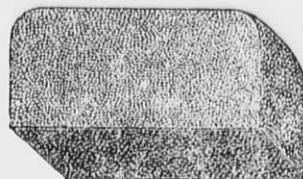
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DURABLE, LIGHT RUNNING.

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The Best, Cheapest, and Most Durable Rubber in the Market, USED DRY. Will outwear any Rubber made in the world, and retain its cutting qualities until entirely worn out.

FACE RUBBER, 42x6x3 inches; weight 12 lbs.; price, \$3.00. FURROW RUBBER, 12x6x1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{3}{4}$ and 2 inches, as required, \$2.50; or both for \$5.00, by express. Furrow Gauges and Staff \$1.25 per set, by mail. Send for circulars, testimonials &c. Address all orders as above.

N. B. This Rubber will not wear a pair of Buhls out of existence in 15 minutes. But if used in connection with the Pick and Red Staff will leave the face and Furrows in the best possible condition for making good work. For cleansing the face of Glazing it has no equal. Try it and be convinced. Money refunded if not satisfactory.

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Having been engaged in the manufacture of ESO-PUS MILLSTONES, CHASERS, &c., for the past 30 years, I am prepared to fill all orders not only at the lowest price, but the best qualities for the purpose intended.

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SITUATION WANTED.

A MILLER of many years experience in mills using stones and rollers, desires a situation. Can furnish first-class references. Address,

W. NEWBURGH,
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FOR SALE.

A good water power and mill with two run of stone at Stone Bank, Waukesha County, Wis. Mill is doing a good business, which with a moderate amount of improvements, could be largely increased. One half or the whole will be sold to the right party. For full particulars, address,

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The Elgin flour mills—3-run of stone—2 Leffel water wheels— $\frac{3}{4}$ feet head and plenty water. 2 purifiers and good bolting capacity. The power is ample for an 8-run mill. Address for further particularsP. DOWSE, Jr.,
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FLOUR MILL FOR SALE.

A new, 2-run grist mill, with dwelling house and barn and 15 acres of land, situated on the Zumbro river, in a fine grain growing country. It is seven miles from a railroad station. Good stone dam and plenty of water the year around. For further particulars, address

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Situated on the Chesapeake & Ohio Canal, 2 $\frac{1}{2}$ miles above Georgetown, D. C., with a perpetual water supply. Has three run of stone, and is capable of making 75 barrels of flour per day. A good home market for the flour. The building is of stone, with a large frame shed attached. Address

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A good two run, water power Grist Mill, 36x50, stone foundation. Good dwelling house and barn with 23 acres of land, situated in fine grain growing country, 1 1/2 miles from railroad station and 9 miles from Manitowoc, Wis.

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Water Mill For Sale!

The best water mill property in north-east Missouri located at Monticello, the county seat of Lewis Co., Mo.

The mill house is 30x40 feet, 3 1/2 stories high, made of stone brick and frame, with two run of Buhls, Leffel, improved wheel, 20 feet dam, stone foundation and machinery almost new, and now doing a good custom business. If desired, will also sell 250 acres of good farming land with three dwelling houses. The land could be divided into two good farms. Terms easy. Address,

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FLOUR MILL

For sale at Carter's Depot, East Tenn., immediately on main line of R. R. from Norfolk to Memphis, 20 Miles from Bristol. Flour Mill, Residence, Millers' House, Out-Buildings, 13 Acres of Land, including Water Privilege, Spring, Well, Etc. Unlimited water power and control of water site for half mile. In centre of good wheat and wool country. Mill building on stone foundation, 5 stories high, including 2 in attic, 4 pairs 4 $\frac{1}{2}$ feet French stones, 4 four foot Turbine wheels, 2 sets wheatelevators, 5 eighteen feet recs, bag and barrel packer, flour elevators and returns. Eureka Smutter, wheat and flour scales. Title undisputed. Non-residence reason for selling. Possession at once; originally cost \$20,000. Will sell at a sacrifice. Can be made most attractive manufacturing seat in the out.

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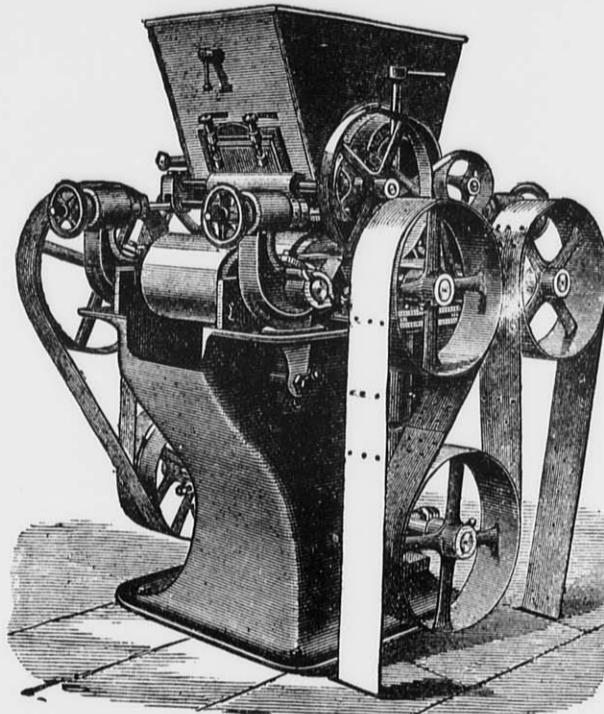
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WEGMANN'S PATENT**PORCELAIN ROLLS**

THE BEST ROLL
FOR
MIDDLELINGS
IN THE
WORLD!

THE BEST ROLL
FOR
MIDDLELINGS
IN THE
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"AWARDED SPECIAL PREMIUMS."

OVER 6,000 OF THESE ROLLS IN USE

IN THIS COUNTRY AND EUROPE.

The Superiority of Porcelain over Chilled Iron for Reducing Middlelings for Tailings is as under:

CHILLED IRON ROLLS, whether polished at first or scratched with fine grooves, soon become, through wear, smooth and glassy, and will only squeeze instead of grinding.

PORCELAIN presents a continual inherent sharpness, which no art can give to any other material in equal fineness and regularity, which enables it to act upon the smallest particles of flour and to separate them.

CHILLED IRON discolors the flour, by reason of the carbon that exudes from it, and also by its liability to rust.

PORCELAIN does NOT discolor the flour and is entirely indifferent to any and all chemical influences.

CHILLED IRON ROLLS are smooth and "cake" the meal; more especially is this the case on soft material.

PORCELAIN ROLLS possess a certain porosity, and no matter how finely ground, or how long they have been used, still re-

tain this granular and porous texture, and will reduce the middlings without "caking."

CHILLED IRON can be cut with steel.

PORCELAIN can ONLY be cut by the best black diamonds.

CHILLED IRON ROLLS require great power to reduce middlelings to the proper fineness on account of their smooth surface.

PORCELAIN ROLLS will do the same amount of work, on account of the slight pressure required, and the gritty nature of the Porcelain, with one-half the power. The flour produced by Porcelain Rolls is sharper, whiter, stronger and more even than that produced by Iron Rolls.

No remarks need be made as to the superiority of Porcelain Rollers over Millstones, as it is a recognized fact by all. Porcelain Rollers are the only Rollers that will entirely supersede Millstones and Metal Rollers.

THESE MACHINES RECEIVED the FIRST PREMIUMS!

At the late Millers' International Exhibition, Cincinnati.

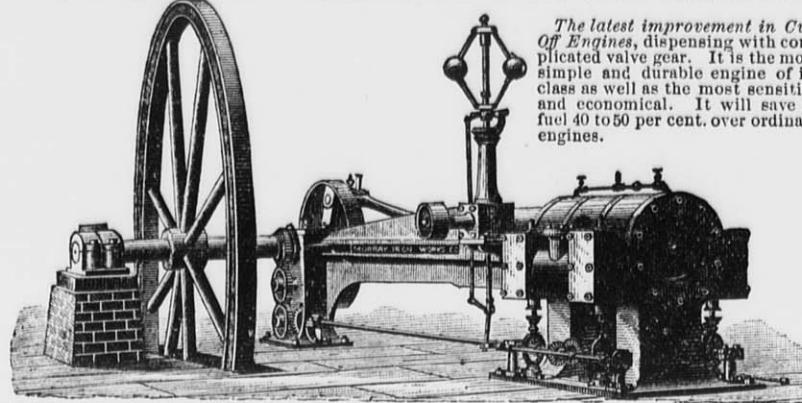
Gold Medals at Nuremberg, 1876; Paris International Exhibition, 1878;

Lille International Concours, 1879; First Gold Medal of the State, Berlin International Exhibition of the German Millers' Association, July 1879; and Gold Medal Le Mans, 1880.

Full Instructions regarding the system of using Rolls in place of Stones given to parties purchasing. Address

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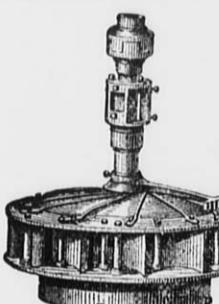
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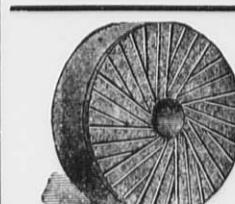
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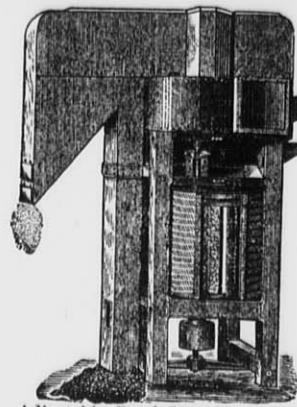
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That gives double the capacity of any other in the same floor space.

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That has the best patented device ever used on a Purifier.

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That does not infringe any patent, (can convince any one of this).

That is not an experiment, but has been tried and tested by hundreds.

That is in use from Long Island to San Francisco, from Dakota to Texas.

That not one of which has ever been returned by any miller.

These are some of the things we have to say about the Case Purifier, and if one jot or title of them is found to be untrue, we will take the machine back and pay all expenses, including freight both ways. Can fill orders promptly.

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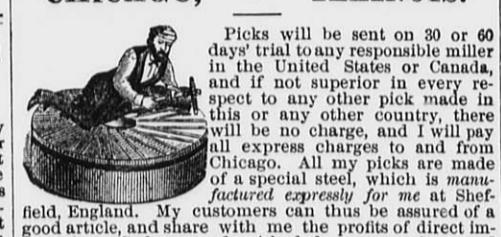
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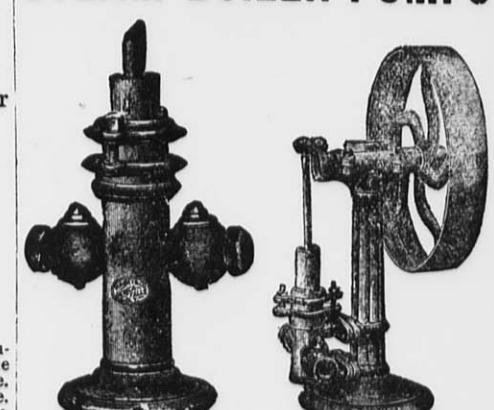
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